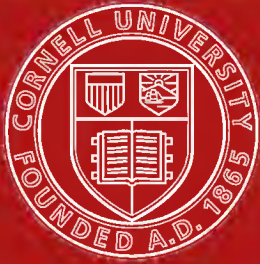




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INDEX-CATALOGUE

OF

BOOKS AND MEMOIRS ON THE TRANSITS OF MERCURY.

BY

EDWARD S. HOLDEN,

NAVAL OBSERVATORY, WASHINGTON.

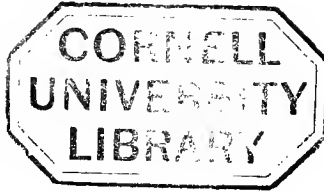
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INDEX-CATALOGUE OF BOOKS AND MEMOIRS ON THE TRANSITS OF MERCURY.

BY EDWARD S. HOLDEN,
United States Naval Observatory, Washington.

*** Having lately had occasion to consult the principal books and memoirs relating to the Transits of Mercury, with special reference to the physical phenomena which had been observed at such transits, I have thought that the list of works which I prepared to aid me in this search might perhaps be of future use to others if put upon record.

It is not complete, as the publications of Observatories are not indexed. This is, however, not necessary, as such observations and memoirs can at once be found by turning to the volumes containing the observations of transit years.

The transits which have been observed are:—

1631. 1651. 1661. 1677. ----- 1690. Nov. 11 1697. Nov. 3 1707. May 6	1723. Nov. 9 1736. Nov. 11 1740. May 2 1743. Nov. 5 1753. May 6 1756. Nov. 6 1769. Nov. 10 1782. Nov. 12	1786. May 4 1789. Nov. 5 1799. May 7 1802. Nov. 9 1832. May 5 1845. May 8 1848. Nov. 8 1861. Nov. 7	1868. Nov. 4 1878. May 6 The transits to occur are:— 1881. Nov. 7 1891. May 9 1894. Nov. 10 1901. Nov. 4
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In my notes I have added an indication of the purport of the paper. These notes require only the explanation that for shortness I have used the word "observations" followed by a date, to indicate contact observations. The principal abbreviations are as follows:—

A. N. Astronomische Nachrichten.
Berlin. Abhand. d. Berliner Akademie.
Boston. } Amer. Acad. of Arts and Sciences. Memoirs.
Boston Proc. } " " Proceedings.
C. R. Comptes Rendus, " Paris. " Acad. des Sciences.
Effem. Milano. Effemeridi di Milano.
Montpellier. Hist. de la Soc. des Sciences, etc.

Mem. R. A. S. } R. Astronomical Soc. London. Memoirs.
M. N. } " " Notices.
Paris. Hist. de l'Acad. R. des Sci. Paris.
P. T. Philosophical Transactions R. Soc. London.
p. t. " " abridged to 1800.
Philadelphia. " Trans. Amer. Philosophical Soc'y.
Stockholm. K. Svenska Vetensk. Akad. Haadlingar.
Zach. Monatliche Correspondenz.

Abbott. *M. N.* xxii. 235.
Observations, 1861.

Alexander and Loomis. *A. N.* xxviii. 151.

Observations, 1848, Nov. 8. Mercury surrounded with a dusky ring; but this phenomenon seen (only?) when sky was hazy. A faint spot in the centre of disc. Princeton, U. S.

Anonymous. Historische Anzeige von dem Durchgang des Mercuri, 1753, May 6. Printed 1753.

Anonymous. De Mercurio sub sole conspicuo. Leipzig. 1719.

Barros de. *P. T.* 1753. 361.
Remarks on certain phenomena observed at Paris 1753, May 6.

Beauchamp. *Journal des Savans.* 1787. 361.
Observations, 1786, May 4, in Bagdad.

Beitler. *Berlin.* 1786.
Observations, 1786.

Bessel. *A. N.* x. 186.
Observations, 1832, May 5. (Heliometer.)
Diameter of Mercury, 6''.6974.

Bianchi. *A. N.* x. 293.
Observations, 1832, May 5.

Bille. *A. N.* x. 223.
Observations, 1832, May 5. Danzig.

Blaesing. De Mercurii per Solem transitu. 1690. Nov. 10.

Boguslawski. *A. N.* xvi. 287.
Observations, 1832, May 4. Breslau and Lima.

Bond, W. C. *Boston. Proc. I.*
Observations, 1845.

Börger. *A. N.* lxxiii. 96.
Observations, 1868, Nov. 4. Diameter, 6''.644. COPPELAND with heliometer; 6''.48, BÖRGER.

Boscovich. De Mercurii novissimo infra solem transitu. Romæ. 1737. 4°.

Bose, G. M. Mémoires de l'académie de Suède. 1757.
Observations, 1756, Nov. 7.

Bose, G. M. Observation du passage de Mercure, 1743. Printed 1743.

Bose, G. M. Observaciones ultimi transitus Mercurii ante discum solis (1743). 1745. 4°.

Bruhns. *A. N.* lxxii. 365.
Observations, 1868, Nov. 4.

Bulard. *M. N.* xxii. 154.
Observations, 1861, Nov. 11.

Cassini and Maraldi. *Paris.* 1707. 175.
Observations, 1707.

Cassini and Delisle. *Paris.* 1723. p. 259 (Cassini); pp. 105, 306 (Delisle).
Passage de Mercure, 1723, Nov. 9.

Cassini and Maraldi. *Paris.* 1736. p. 342 (Maraldi); iv. p. 404 (Cassini).
Observations, 1736, Nov. 11.

- Cassini and others.** *Paris.* 1743. 131, 136.
Observations, 1743, Nov. 5. Luminous ring around planet in both transits, 1736 and 1743.
- Cassini and others.** *Paris.* 1753. pp. 59, 313 (Cassini); p. 134 (Lemonnier); p. 193 (Bouguer, — no black drop); p. 243 (Delisle, — no annulus); p. 420 (Pingré).
Observations, 1753, May 5.
- Cassini.** *Paris.* 1782.
Observations, 1782.
- Cesaris.** *Effem. Milano.* 1788. p. 155.
Observationes Mercurii sub Sole habitæ. 1786, May 3.
- Chiminello.** *Memorie della Societa Italiana.* vol. 8, vol. 11.
Transits of 1799 and 1802, calculated.
- Dawes and others.** *M. N.* ix. 2, 3, 5; 21, 22, 23; 39.
Observations, 1848, Nov. 8. pp. 2, 3, 5.
Dawes, pp. 21–22, diameters, polar and equatorial, measured: Compression $r = 29$.
Dell, p. 23, gray spot on centre of planet by various observers.
- David.** *A. N.* x. 216, 374.
Observations, 1832, May 5.
- De Lambre.** *Effem. Milano.* 1789. p. 233.
Observations, 1786, May 4.
- De l'Isle.** *Paris.* 1758.
Theory of transits of Mercury.
- De l'Isle.** *Avertissement aux Astronomes sur le passage de Mercure. etc.* 1753, May 6. *Paris.* 1753. 4^o.
A catalogue of all previous observations of transits is given.
- Dunér.** *A. N.* lxxii. 377.
Observations, 1868, Nov. 4, diameter 8''.81.
- Ellery.** *M. N.* xxii. 88.
Observations, 1861, Nov. 12, Australia.
- Encke.** *A. N.* xxiii. 190.
Observations, 1845, May 8.
- Fearnley.** *A. N.* lxii. 345.
Observations, 1868, Nov. 4.
- Ferner and Prosperin.** *Neue schwedische Abhandlungen* (translation by Kästner). Vol. 7. 1786. pp. 102, 109.
Luminous ring round the planet. 1786.
- Flaugergues.** *Connaissance des Temps*, an XI.
Bright ring round the planet; seen in 1786, May; 1789, Nov; and 1799, Nov.
- Fontenay.** *Paris.* x.
Observations in China, 1692–93.
- Fouchy, G. DE.** *Paris.* 1737.
Observations, 1736.
- Fritsche.** *Zach's Monat. Corresp.* Vol. 6. p. 657, et seq.
Observations, 1802, Nov. 8. p. 571. In 1799 Fritsche saw a halo round the planet; in 1802 no halo was seen, or only traces of one; a white spot on the disc was seen in 1802. p. 574. Schroeter saw a halo round planet.
- Gabry and Lulofs.** *Memoirs Soc. Hollandais des Sciences* (Haarlem.) 1754.
Observations, 1753, May 6.
- Gambart.** *A. N.* x. 257.
Observations, 1832, May 5.
- Gassendus.** *Mercurius in Soli visus, etc.* 1656.
- Gassendi and Kepler.** *Admonitio ad Astronomos, etc.* Leipzig. 1629.
First observed (and predicted) transit.
- Gassendi.** *Opera omnia*, vol. ii. p. 537.
- Gerling.** *A. N.* x. 199.
Observations, 1832, May 5.
Traces of an atmosphere, etc. not observed. Black drop seen.
- Halley.** *Mercurii transitus sub Solis disco 1677, 1679.*
Appendix to *Catalogus stell. australium, etc.* 1679. 4^o.
- Halley.** *P. T.* 1725. p. 228.
Observations, 1723.
- Hamilton.** *P. T.* 1783.
Observations, 1782.
- Hansen.** *A. N.* x. 221.
Observations, 1832, May 5. (Heliometer.)
- Hecker.** *Mercurius in Sole, etc.* Gedani. 1672.
- Heinsius.** *Mercurius in Sole visus, etc.* St. Petersburg. 1753.
- Henderson.** *A. N.* x. 382.
Observations, 1832, May 5. Cape of Good Hope.
- Herschel, W. P. T.** 1803. p. 214.
Observations, 1802.
No ring about the planet; no ellipticity; circumstances very good. The structure of the sun seen up to the very edge of the planet.
- Hevelius.** *Mercurius in Sole visus 1661.* Gedani. 1662.
- Hevelius.** *Zach's Monat. Corresp.* Vol. 8, p. 35. 1661, May 3 (Hevelius); p. 116, observations, 1799, May 7 (Wurm); p. 335, observations, 1802, Nov. 9 (Ljungberg; halo round Mercury.)
Observed in Copenhagen.
- Hiddinga.** *Die Erscheinung des Mercurius in der Sonne 1743.* Printed in 1743.
- Hind.** *A. N.* xxviii. 109.
Observations, 1848, Nov. 8; diameter 9''.254 (probably not reduced to distance 1).
- Hodgson.** *Mem. R. A. S.* iii. 109.
Observations, 1822, Nov. 4. Calcutta.
- Honaldo.** *Dissertatio astronomica de transitu Mercurii sub Sole die 9 nov., 1723.*
- Hortensius.** *De Mercurio in Sole visa, etc.* Published 1633.
- Huggins.** *M. N.* xxix. 25.
Observations, 1868, Nov. 4.
Atmosphere brighter than sun $\frac{1}{2}$ of Mercury's diameter in extent; point of light in centre of planet; both visible throughout the transit.
- Innes.** *A. N.* x. 211.
Observations, 1832, May 5, Aberdeen.
- Juni, V.** *Mercurius in Sole videndus 1697, etc.*
- Kaiser.** *A. N.* lxxiii. 213.
Observations, 1868, Nov. 4.
- Kaiser.** *Leyden Observations.* iii. 211.
Measures of diameters and history of preceding work. (Double-image micrometer.) *Leyden result* 6''.606, ± 0.020 (25).
- Kampf.** *A. N.* lxxiv. 43.
Observations, 1868, Nov. 4.
- Karsten and Hackel.** *A. N.* xxiii. 150.
Observations, 1848, May 8; in Rostock by Karsten; in Senttenberg by Hackel.
- Kepler.** *Admonitio ad Astronomos de rarior mirisque, anni 1631, phaenomenonis, . . . Mercurii in Solem in cursu.* 1629.
- King.** *M. N.* vii. 10.
Observations, 1845, May 8. Port Stephen.

- Kirch.** Mercurius in Sole visus, 1690; (in Kirch's Ephemerides).
- Kirch.** *Berlin.* 1710.
Mercurius in Sole. 1707.
- Kirch,** C. Transitus Mercurii per Solem, etc. 1720, May 8. *Berlin.* 1719.
- Köhler.** *P. T.* 1787.
Observations, 1786. *Dresden.*
- Kreil.** *Ephem. Milano.* 1833. p. 105.
Observations, 1832, May 4-5.
- Krüger.** *A. N.* lxxiii. 191.
Observations, 1868, Nov. 4.
- Lalande.** *Paris.* 1782.
Observations, 1782.
- Lalande.** *Paris.* 1804.
Observations, 1802, Nov. 9.
- Lang,** Andrew. *A. N.* xi. 263.
Observations, 1832, May 5. *St. Croix, West Indies.*
- Lassell.** *M. N.* vi. 255, 256.
Observations, 1845, May 8.
- Liais.** *A. N.* lxxiii. 209.
Observations, 1868. Nov. 4.
No atmosphere or luminous point. Careful observations with three telescopes.
- Lidtgren.** *Stockholm.* 1789.
Observations 1789 at *Lund.*
- Littrow, Paugger, and others.** *A. N.* lxxiii. 174.
Observations, 1868, Nov. 4.
- Lorek.** *A. N.* lxxiv. 104.
Observations, 1868, Nov. 4. *Koenigsberg.*
- Maclear and Barneby.** *M. N.* xxix. pp. 194-96; 209.
Observations, 1868, Nov. 4.
BARNEBY, p. 194. No bright spot on planet; no aureola.
MACLEAR, p. 209. Diameter $8''.376 \pm 0''.11$.
- Mädler and Beer.** *A. N.* x. 141.
Observations, 1832, May 4-5. Mercury round. No atmosphere. Diameter $5''.8165 \pm 0''.0177$.
- Mädler.** *A. N.* xxiii. 145, 147.
Observations of diameter in 8, $6''.5423$. Poor observations, as the planet was low. 1845, May 8.
- Main.** *Mem. R. A. S.* xxv. p. 43.
Diameter at dist. $1=6''.89$.
- Main.** Greenwich observations: 1841, March 11; 1842, Feb. 14; 1844, April 20, May 1, May 8; 1845, April 21, April 22, April 23, April 24; 1858, April 19.
Observations of diameter by various observers. In the mean (omitting 1844, April 20), these give diam. at dist. $1=6''.96$. See Kaiser.
- Manfredus.** Mercurii ac solis congressus. (1723). 4°.
- Méchain.** *Paris.* 1782.
Observations, 1782.
- Méchain.** *Zach's Monat. Corresp.* Vol. 7.
p. 81. Observations, 1802, at *Paris*, etc.
p. 171. No halo about the planet.
p. 368. Observations, 1802.
- Mentzeri.** Nachricht von dem (1723) observirten Conjunction des Mercurii und der Sonnen. 1723. 4°.
- Messier.** *Paris.* 1786.
Observations, 1786.
- Messier.** *Paris.* 1790.
Observations, 1789.
- Mitchel.** *A. N.* xxiii. 314.
Observations, 1845, May 8, at *Cincinnati*. [These observations are worthless. — E. S. H.]
- Mohr.** *Mémoires Acad. de Harlem.*
Observations (1769), at *Batavia, Java.*
- Moll.** *A. N.* x. 209.
History of transits of 1631, 1661, 1677, 1690, and others, with references.
Observations, 1832, May 4. Mercury round and sharp. White spot seen on planet.
Plantade, Flaugergues and Prosperin speak of a ring round planet.
- Moll and others.** *Mem. R. A. S.* vi.
p. 111. Brief history of former transits; observations, 1832, planet round; grey spot on the disc; darker ring round the limb; several observers; by Moll.
p. 194. Observations, 1832, May 5, by various observers.
- Mossotti.** *M. N.* iii. 131.
Account of computations of the transit of 1832.
- Mossotti.** *Mem. R. A. S.* viii. p. 268.
Observations, 1832.
- Nicolai and Gauss.** *A. N.* x. 143, 144.
Observations, 1832, May 5. *Mannheim and Göttingen.*
- Nicolai.** *A. N.* xxiii. 170.
Observations, 1845, May 8.
- Nobert.** *A. N.* xiv. 60.
Observations, 1832, May 5.
- Olbers.** *A. N.* x. 143.
Observations, 1832, May 5.
In 1799, Olbers saw the same halo about the planet that was remarked by Schumacher and Petersen, but regarded it as an optical illusion.
- Oppolzer.** *A. N.* lxxii. 347.
Observations, 1868, Nov. 4.
Greyish atmosphere $3'$ broad round planet, — possibly a deception.
- Oudemanns.** *A. N.* xxxvii. 67.
Observations, 1848, Nov. 8. *Leiden.*
- Palagi.** *A. N.* lxxiii. 75.
Observations, 1868, Nov. 4. *Bologna.*
- Papken.** Eclipsis Lunæ . . . cui accedit calculus Mercurii cum Sole congressus. 1707.
- Pastorff,** v. *A. N.* x. 198.
Observations, 1832, May 4.
- Peters,** C. A. F. *A. N.* lxxii. 327.
Observations, 1868, Nov. 4.
- Pigott.** *P. T.* 1786.
Observations, 1786.
- Plantade.** *Montpellier.* 1, 2.
Observations, 1723, 1736.
- Plantamour.** *A. N.* xxiii. 161.
Observations, 1845, May 8.
- Plantamour.** *A. N.* xxviii. 121.
Observations, 1848, Nov. 8.
- Pohl.** *A. N.* lxxiii. 77.
Observations, 1868, Nov. 4.
Atmosphere (?) $\frac{1}{2}$ of Mercury's diameter.
- Quetelet.** *A. N.* xxiii. 254.
Observations, 1845, May 8.
- Quetelet.** *A. N.* xxix. 154.
Observations, 1848, Nov. 8.

- Reggio.** *Effem. Milano.* 1788. p. 148.
Observations, 1786, May 3.
- Riddle.** *M. N.* ii. 103, 104, 111, 125, 187.
Observations, 1832, May 5, at Greenwich; diameter = $11''.38$ (at epoch). Mercury surrounded by a halo (Simms); same (Riddle).
- Rittenhouse.** *Philadelphia.* 1793.
Observations, 1789, Nov. 2.
- Row.** *M. N.* xxix. 278.
Observations, 1868, Nov. 4. Atmosphere (?) In India.
- Rümker.** *A. N.* ii. 209.
Observations, 1822, at Paramatta and Sydney. Measures of diameter were made.
- Rümker.** *A. N.* v. 87.
Observations. Contacts and $\Delta\alpha$ and $\Delta\delta$ of Sun and Mercury. 1822.
- Rümker.** *A. N.* xxiii. 147.
Observations, 1845, May 8.
- Rumovski.** *P. T.* 1787.
Observations, 1786, at St. Petersburg.
- Schenck.** *A. N.* x. 195. See x. 198, and xi. 32.
Observations, 1832, May 5. Atmosphere; satellite $\frac{3}{4}$ ds of a diameter distant(?)
- Schenmark.** *Dissertatio astronomica de Mercurio in sole observato* (1753, May 6).
Observations at Lund by several persons.
- Schickardus.** *Pars responsi ad epistolas P. Gas-sendi de Mercurio sub sole viso, etc.* Tubingen. 1632.
- Schim.** *Mémoires Acad. de Harlem.* 1756.
Observations, 1756, Nov. 7.
- Schmidt.** *A. N.* lxxv. 97.
Polar diameter, $6''.454$ at dist. = 1; 14 observations.
- Schroeter and Harding.** *Hermographische Frag-mente.* p. 24.
Darker nebulous ring approaching to violet color, around planet. 1799.
- Schumacher.** *A. N.* x. 131.
Observations, 1832, May 5. Altona, Hamburg. Protuberance remarked on Mercury while on the disc, which afterwards disappeared. Bluish atmosphere (?) about the planet. A bright point and a dark point seen near centre of planet.
- Schumacher.** *A. N.* xxiii. 146.
Observations, 1848, May 8.
No ring about the planet as in 1832. The same observers.
- Schumacher.** *A. N.* xxviii. 105-107.
Observations, 1848, Nov. 8. Altona, Hamburg.
- Secchi.** *A. N.* lxxii. 367.
Observations, 1868, Nov. 4. Rome.
- Secchi and Lassell.** *M. N.* xxii. 37, 39, 42.
Observations, 1861, Nov. 11.
Secchi, p. 37, diameter $9''.077 \pm 0''.189$. A former observa-tion gave him $8''.01$ (not at transit).
Lassell, p. 39, possibly elliptical (at Malta).
Other observations at Liverpool by Lassell.
- Shakerley.** *Colloquium seu Disceptatio de Mer-curio in Sole vivendo.*
Shakerley's work on the transit of 1651, Nov. 3 (the second transit observed). See *Zach's Monat. Corresp.* 8, p. 38.
- Sharp, Abraham.** *M. N.* iii. 105.
Observations, 1707.
- Simms and Riddle.** *Mem. R. A. S.* v. 381.
Observations, 1832, May 5.
Simms, p. 382, dusky ring.
Riddle, p. 382, atmosphere.
- Soter.** *Historiola Mercurii Soli conjunctim ob-versi, etc.* 1690.
- Stone, Plummer and Buckingham.** *M. N.* xxix. 11-15, 18-24.
Observations, 1868, Nov. 4.
Stone, p. 12, ring round planet; contrast (?); no central spot; no satellite.
Plummer, p. 19, diameter $9''.001$, double image micrometer.
Buckingham, p. 22, no atmosphere; diameter $7''.651$ (10), $7''.618$ (5).
- Stone.** *M. N.* xxix. 15.
Remarks on methods of observing transits.
- Todd.** *M. N.* xxii. 267.
Observations, 1861, Nov. 11.
- Talmage and Todd.** *M. N.* xxix. 57, 58 89.
Observations, 1868, Nov. 4.
- Verrier, Le.** *Comptes Rendus.* 1845, i.; 1845, ii.; 1848, ii.
Elements of Mercury, and comparison with observations.
- Verrier, Le.** *A. N.* xxiii. 33.
Elements of transit of 1848, May 5.
- Verrier, Le.** *A. N.* xxiii. 181, 299.
Comparison of observations with theory. 1845, May 8.
- Wahn.** *Die Erscheinung des Mercurii in der Sonnen.* 1723, Nov. 9.
- Wallot.** *P. T.* 1784.
Observations, 1782.
- Wargentín.** *Stockholm.* 1753.
Observations, 1753.
- Weidler.** *Narratio de Mercurio de 11 novembris (1736) in sole viso.* 1737. 4°.
- Weidler.** *Commentatio de via curva Mercurii sub sole in rectam convertenda, etc.* 1748. 4°.
Observations, 1743.
- Willard.** *Boston.* 1793.
Observations, 1789.
- Williams.** *Philadelphia.* 2.
Observations, 1769.
- Williams.** *Journal des Savans.* Paris. 1783. 4°.
p. 243.
Observations, 1782.
- Wing, V.** *Astronomica Britannica*, p. 312.
Transit of 1631, Nov. 3, observed by J. Shakerley of England, who went to India for the purpose.
- Winthrop.** *Boston.* 1785.
Observations, 1782.
- Wolf.** *A. N.* lxxii. 355.
Observations, 1868, Nov. 4.
Madrid, diameter $9''.06$ (10) by Aguilar.
Bonn, diameter, $6''.129$ at distance 1.
- Würm.** *A. N.* vi. 93.
Observations, 1789, Nov. 5.
- Würm.** *A. N.* vi. 330.
Observations, Paramatta, 1822, Nov. 5.
- Würm.** *A. N.* vii. 31.
Observations, Calcutta, 1822, Nov. 5.
- Würm.** *Bode's Jahrbuch.* 1797, p. 142; 1803, p. 162; 1807, p. 161. Also second Supplement Band, p. 4.
See *Monatliche Corr.* xiv. p. 283. Diameter of Mercury from over 200 observations, — some of micrometric diameters, some of times between contacts; diameter at dist. = $6''.01$.

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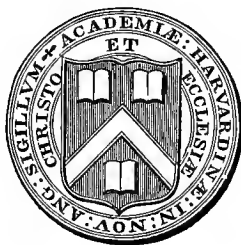


Library of Harvard University.

BIBLIOGRAPHICAL CONTRIBUTIONS.

EDITED BY JUSTIN WINSOR,
LIBRARIAN.

No. 4.



PIETAS ET GRATULATIO.

AN INQUIRY INTO THE AUTHORSHIP OF THE SEVERAL PIECES.

By JUSTIN WINSOR,
LIBRARIAN OF THE UNIVERSITY.

REPUBLISHED FROM THE BULLETIN OF THE LIBRARY OF HARVARD UNIVERSITY,
MARCH, 1879.

CAMBRIDGE, MASS. :
PRESS OF JOHN WILSON AND SON.
1879.

Already issued :

1. EDWARD S. HOLDEN. Index-Catalogue of Books and Memoirs on the Transits of Mercury.
 2. JUSTIN WINSOR. Shakespeare's Poems : a Bibliography of the Earlier Editions.
 3. CHARLES ELIOT NORTON. Principal books relating to the Life and Works of Michel Angelo, with Notes.
 4. JUSTIN WINSOR. Pietas et Gratulatio. An Inquiry into the authorship of the several pieces.
- ////////

PIETAS ET GRATULATIO.

AN INQUIRY INTO THE AUTHORSHIP OF THE SEVERAL PIECES.

By JUSTIN WINSOR, *Librarian of the University.*

In 1760, while Holyoke was President of Harvard College, George the Second died, and George the Third succeeded to the throne. A few months later, at the instigation of Francis Bernard, the newly arrived royal Governor of the Province of Massachusetts Bay, who was desirous of having its principal institution of learning follow the example of the English Universities, the succeeding notice was posted in the College Chapel, Saturday, March 14, 1761:—

“PROPOSAL,

for a celebration of the Death of the late King, and the accession of his present Majesty, by members of Harvard College:—

“Six guineas are given for a prize, of a guinea each, to the author of the best composition of the following several kinds:—

- “1. A Latin Oration.
- “2. A Latin poem in hexameters.
- “3. A Latin Elegy in hexameters and pentameters.
- “4. A Latin ode.
- “5. An English poem in long verse.
- “6. An English ode.

“Other Compositions, beside those that obtain the prizes, that are most deserving, will be taken particular notice of.

“The Candidates are to be all gentlemen, who are now members of said College, or have taken a degree within seven years.

“Any Candidate may deliver two or more Compositions of different kinds; but not more than one of the same kind.

“That gentlemen may be more encouraged to try their talents upon this occasion, it is proposed that the names of the Candidates shall be kept secret, except those who shall be adjudged to deserve the prizes, or to have particular notice taken of their Compositions, and even these shall be kept secret if desired.

“For this purpose, such Candidate is desired to send his Composition to the President, on, or before, the first day of July next, subscribed at the bottom with a feigned name or motto, and, in a distinct paper, to write his own name and seal it up, writing the feigned name or motto on the outside. None of the sealed papers containing the real names will be opened except those that are adjudged to obtain the prizes or to deserve particular notice; the rest will be burned sealed.”

It does not appear how far all the conditions of this call were met; but from the offerings was

gleaned at least a part of the contributions to a volume which was in typography the handsomest specimen of the art as yet produced in the Colonies. It was in quarto, 116 pages, and the title read:—

PIETAS ET GRATULATIO COLLEGGI CANTABRIGIENSIS APUD NOVANGLOS. BOSTONI-MASSACHUSETTENSIIUM TYPIS J. GREEN & J. RUSSELL. MDCCLXI.

The date of publication seems to have been put back a year, since it was published under a vote of the Corporation, Jan. 5, 1762, which directed “that the Collection in Prose and Verse in several Languages compos'd by some of the Members of the College, at the Motion of his Excy, our Governr, Francis Bernard, Esq, On Occasion of the Death of his late Majesty, & the accession of his present Majesty, King George the Third, be printed; and that his Excy be desired to send, if he shall judge it proper, a copy of the same to Gr. Britain, to be presented to his Majesty, in the Name of the Corporation.”

Bernard, as Governor, had a seat at the board of Overseers, and it is uncertain whether he or Lieutenant-Governor Hutchinson composed the dedication to the King, which, notwithstanding the terms of the vote above quoted, is the only prose contribution in the volume. President Quincy, speaking of this address, says: “Its style and turn of thought indicate the politician rather than the student, and savor of the senate chamber more than of the Academy.” In May, 1763, Jasper Mauduit, the Agent of the Province in London, mentions “the presentation to his Majesty of the book of verses from the College;” but nothing is known of any expression of acknowledgment on the part of the King. A copy, for which the claim was made that it was the one sent to the King, was No. 926 in the Odell Sale Catalogue, New York, 1878, Part I.; it had G. REX surmounted with a crown, stamped on the back in six places. An ornament of some kind had been cut out on both sides of the cover. There were no marks of authorship attached to any of the pieces. A copy mentioned, No. 1767, in *The Catalogue of the American Library of the late Mr. George Brinley*, First Part, 1879, is described as bound in “old red morocco, sides with broad gilt borders, and the royal arms in the centre.” Mr. Brinley had written in it: “This is one of the very few copies on thick paper, intended for presentation to the Royal Family.” Another copy with a similar claim is marked **N** in the following list.

It is said that copies on thicker paper were sent to England for the members of the Royal Family, and very likely entrusted to the care of Thomas Hollis, to be suitably bound, since the copy now in the "King's Collection" in the British Museum — the library of George III., transferred by George IV. to that repository — bears in the ornament representing Britannia, an impression from a die which Hollis seems to have had cut for his own use, and a number of books presented by Hollis to the College Library bear this same device on their covers. Of this copy, Mr. G. W. Porter, the Assistant Keeper of the Printed Books in the Museum library, writes to me as follows, — mentioning other copies at the same time: "We have three copies of the book in the Museum, — one in George the Third's library; one presented in 1763 by Thomas Hollis, Esq.; and one purchased in a collection of tracts. None of them, however, have any inscription or any mark whatever. The King's copy is a fine, tall one, handsomely bound in red morocco, having the royal arms on the sides, and the figure of Britannia surmounted by a star, in each of the panels at the back. The arms and ornaments differ from those usually employed in the King's library, and in all probability the book was presented bound. It may very likely have been the one voted by the Corporation of the College."

President Holyoke also sent a copy to this same Thomas Hollis, in London, the well-known friend and benefactor of the College, and his letter and Hollis's reply are preserved in the Memoirs of Hollis, p. 101, under date Sept. 25, 1762. Holyoke calls it "an attempt of several young gentlemen here with us, and educated in this College, to show their pious sorrow on account of the death of our late glorious King, their attachment to his royal house, the joy they have in the accession of his present majesty to the British throne, and in the prospect they have of the happiness of Britain from the Royal Progeny which they hope for from his alliance with the illustrious house of Mecklenburg."

The Greek type used in Nos. 15, 16, and 18, was, according to Thomas, History of Printing, 1874, vol. i., p. 63, the gift of Hollis to the College about 1718. This was the only time it was used, and the font was destroyed on January 24th, 1764, when Harvard Hall and the Library were burned.

The *Monthly Review* for July, 1763, p. 22, in an extended and considerate notice of the book, says that the collection had not been advertised for sale in London, but that the *Review* had been favored with a copy of it; and closes its article as follows: "It must be acknowledged, after all, that this New England Collection, like other public offerings of the same kind, contains many indifferent performances; but these, though they cannot so well be excused when they come from ancient and established seats of learning, may, at least, be connived at here; and what we could not endure from an illustrious University, we can easily pardon in an infant Seminary."

The *Critical Review*, for October, 1763, p. 289, speaks of the contributions as "not distinguished by the writers' names, like the verses from our own Universities." Referring to the prophecy of America's future rank in letters, embodied in Governor Bernard's EPILOGUS, the reviewer closes: "We wish this prophecy may, and have great reason to expect that it will, be fulfilled in due time, as the verses from Harvard College seem already to bid fair for a rivalry with the productions of Cam and Isis."

The closing contribution of Governor Bernard

deserves remembrance for its merits as well as for the prophecy: —

ISIS et CAMUS placide fluentes,
Qua novem fastos celebrant sorores
Deferunt Vatum pretiosa REGI
DONA BRITANNO.

Audit haec Flumen, prope Bostouenses
Quod NOVANGLORUM studiis dicatas
Abluit sedes, eademque sperat
Munera ferre.

Obstat huic Phoebus, chorus omnis obstat
Virginum; frustra officiosa pensum
Tentat insuetum indocilis ferire
Plectra juventus.

Attamen, si quid studium placendi,
Si valet quidquam Pietas Fidesque
Civica, omnino rudis haud peribit
Gratia Musae.

Quin erit tempus, cupidi augurantur
Vana ni Vates, sua cum NOVANGLIS
Grandius quoddam meliusque carmen
Chorda sonabit:

Dum regit mundum occiduum BRITANNUS,
Et suas artes, sua jura terris
Dat novis, nullis cohibenda metis
Regna capessens;

Dum Deus, pendens agitationes
Gentium, fluxu moderatur orbi,
Passus humanum genus hic perire,
Hic renovari.

In some of the copies, a slip of paper, inserted at the end, mentions three verbal or literal errors on pp. 10, 24, and 43, and adds: "The last stanza of p. 72 [No. xxi.], in some copies, to be corrected thus: —

"Lucidos currus per aperta coeli
Phoebus impellens, nec Avo videbat
Clariorem; nec, nisi per Nepotem,
Viderit unquam."

In all three of the College library copies this stanza reads in this corrected way; but in the Belknap copy (Boston Public Library), it reads: —

"Lucidos currus per aperta coeli
Phoebus impellens, videt haud Georgo
Clariorem; nec, nisi per Nepotes,
Viderit unquam."

In the following list of the contributions to the volume, the names of the supposed authors are given, and after them certain letters, which indicate the authorities, according to this key: —

A¹ Monthly Anthology, Boston, June 1809, p. 422. An article written by Alexander H. Everett, who says the names "are mostly taken" from the Sewall copy, "and as he [Sewall] was, at the time when they were written, a member of College, and wrote several of them himself, are probably correct."

A² Monthly Anthology, July, 1809, p. 67. In which the Rev. Dr. Samuel Deane of Portland, the only contributor then surviving, amends the list in the June number.

A³ This same number, p. 67, also contains an anonymous note, dated July 13, 1809, on the subject with a partial list.

B. Dr. Jeremy Belknap's copy, bearing his autograph and the date 1762, given in 1859 by his daughter, Elizabeth Belknap, to the Boston Public Library, where it now is. It has marginal notes by Belknap, and names appended to most of the pieces.

E. A copy formerly owned by Prof. McKean, bought at the sale of his library by the Rev. Mr. Greenwood, and after his death purchased by the late George Ticknor, and given by him to Mr. Dowse (according to a memorandum, made by Prof.

C. E. Norton, from Mr. Ticknor's information, about 1844); but such a copy is not now in the Dowse Collection of the Mass. Historical Society. The assignment of names is made on the authority of the Rev. Dr. John Eliot, as appears from a note by Prof. McKean, in the copy: "The writers, as I have been informed by one well conversant with our civil and literary history, and as a scholar ranking first in the very first class (Dr. Eliot), were as follows: " A copy in Harvard College library, bound with others, given in 1853 by Epes S. Dixwell, Esq., seemingly once the property of Dr. Eliot, for it has his autograph on the fly-leaf, has no annotations whatever.

E² A copy in a volume of Tracts, given to the Harvard College Library by Samuel A. Eliot in 1845, this particular copy bearing the name on the title, "Samuel Eliot, 1762." The names at the end of the several pieces, and other notes seem to be in the same hand, and the names correspond in such way to those given in the Belknap copy that it is evident the information came from the same source. One of the notes, common to both copies, is curious. In No. xi., p. 35, is this couplet,—

"Here he restrain'd the Indian's thirst of gore,
And bid the murd'rous tomaw drink no more."

Against *tomaw* is written, "Compounded of tomahawk and ax."

The connection of the Belknap and Eliot families was near. Belknap a few years later (1767) married Ruth, the sister of this Samuel Eliot, who was the founder of the Eliot professorship, and who became a prominent merchant in Boston. He was cousin of the Rev. John Eliot, named under **E**. Samuel Eliot was the grandfather of President Eliot.

H. A copy in Harvard College Library, which seems to have been specially bound as a memorial. In it has been inserted by the late Librarian, T. W. Harris, 1836, a transcript of the "Proposal," and an "Index" of the writers, made out by the Rev. Dr. T. M. Harris, "as I was told," says Prof. Norton's memorandum, "by his son, Dr. T. W. Harris." In a few instances, the writing is in pencil, perhaps later, and these are indicated by an asterisk, **H***. Harris owned the Sewall copy.

L. A copy in the possession of the Rev. Robert Lowell of Schenectady, grandson of the writer of no. vii., who says the assignments of authorship in it are "apparently in the handwriting of my great-grandfather, Rev. John Lowell, of Newbury, Class of 1721." This graduate died in 1767, and was the father of the contributor of no. vii.

M. The Massachusetts Historical Society's copy, with names in pencil in a late hand, apparently following some earlier authority, and corresponding in some respects with the copy **H**. The early proceedings of the Society show that this copy was given to it by Dr. Belknap in 1791.

N. A copy in the New York Historical Society, which being bound in morocco, gilt leaves, with the Royal arms stamped on the cover, and the book-plate of Carlton House Library within, is held to be the one presented to the King. It contains only two assignments of authorship, nos. xi. and xvi.

S. A copy marked by Prof. Stephen Sewall, one of the contributors, and given by him to the late Dr. T. M. Harris, who, in a letter to Mr. Ticknor, calls Sewall "the most accomplished Classical Scholar of the day, which our College or Country could boast."

P. A copy bearing on the fly-leaf, in President Holyoke's hand, "Edvardi Holyoke Liber;" be-

neath which a further inscription points out the present owner,— "Ilius, Universitatis Harvardianæ Præsidis clarissimi, nepos, Fredericus Henricus Hedge, Amico suo, antiquitatum Nov-Angliæ cultori perdocto, Georgio E. Ellis, S.T.D." The authors' names are given in the President's hand at the end of some of the pieces.

W. A copy which belonged to Prof. John Winthrop, and was subsequently owned by the late George Ticknor; but those marked **W***. are written, in that copy, in another hand than Winthrop's.

*** If a point of interrogation (?) follows a letter, it signifies that the authority thus given expresses a doubt on the point.

LIST OF PIECES.

TO THE KING. *Lieut.-Gov. Hutchinson, S. W. Gov. Francis Bernard, E. H*. **L**. It is said, erroneously in **A¹** that the Sewall copy gives it to Bernard. Eliot, in his Biog. Dictionary, gives it to Hutchinson, who had graduated at Harvard in 1727, and was now about fifty years old. Bernard, who took his degree at Oxford in 1736, had arrived in the Province in August, 1760, and was about three years the junior of the lieutenant-governor.*

I. ADHORTATIO PRÆSIDIS. *Gov. Francis Bernard, E. W. President Edward Holyoke, A¹ A² E. E² H*. **L M? S**. The *Monthly Review* ascribes it to "The President." A. H. Everett adds, "President Holyoke was then very old, and his Adhortatio is said to have been corrected by master Lovell."*

Holyoke was now seventy-two years old, and died in office seven years later. He had graduated in 1705.

II. AD PRÆCELLENTISSIMUM PROVINCIÆ PREFEC-TUM. *Master John Lovell, A¹ A² E. H. M? S. W. J. Taylor, B. E² L*. The *Monthly Review* says it "seems to have been written" by Holyoke.

Lovell was at this time the head-master of the Latin School in Boston, and was now fifty-one years old, having graduated in 1728. The other claimant was probably the Joseph Taylor of the Class of 1765 (died 1816); in which case he was a freshman at the time, aged fifteen years. The Lowell copy gives the name in full, "Mr. Jos. Taylor."

III. CUM ROSEIS QUONDAM DEA, etc. *Stephen Sewall, A¹ A² E. H. L. M. P. S. W*.

Sewall had just graduated at the age of thirty, having fitted himself for college at the joiner's bench. He became tutor in Hebrew in 1762.

IV. ARE MONARCHS THEN SUCH UNIMPORTANT THINGS, etc. *Dr. Benjamin Church, H. M*.

Church had graduated in 1754 at the age of twenty, and was now acquiring reputation in Boston as a surgeon.

V. OF CYPRESS DEIGN, CELESTIAL MUSE, TO SING. *Stephen Sewall, A¹ A² B. E. E² H. L. M. P. W*.

VI. CUM BRITONUM REGEM, etc. *Gov. Francis Bernard, E. H. M. W*.

VII. WHILE THRO' THE BRITISH WORLD, etc. *John Lowell of Newbury, A¹ A² B. E. E² H. M. P. S. W*. A. H. Everett adds, "afterwards LL.D. and A.A.S., member of Congress, and judge successively of the Court of Appeals, District Court, and Circuit Court of the United States." The *Monthly Review* held that these verses, "though said to be written by a youthful son of Harvard, are allowed to be nervous, and we cannot but congratulate the College on so promising a pupil."

Lowell had graduated in 1760. He was the grandfather of Prof. James Russell Lowell, and of the Rev. Robert Lowell. The late Rev. Dr. Charles Lowell added to the Lowell copy, against his ancestor's name in the list, "Æt. 17."

VIII. CUM REX SCIRET AVUM, etc. *James Bowdoin, A² E. H. W. Francis Bernard, B.* (giving it "F. B. esq.").

Bowdoin was at this time sixteen years out of college, and had graduated at eighteen in 1745. His prominence as an opponent of ministerial measures, subsequently incurred the displeasure of Bernard, who a few years after they were thus associated together, negated him as a Councillor, in 1769.

IX. PROXIMUS A PRIMO, etc. *James Bowdoin, E. H. W. Francis Bernard, B.* (giving it "F. B., esq.").

X. HARK! — TO WHAT MELANCHOLY SOUND. *Rev. Samuel Deane, Portland, A¹ A² B. E. E² H. L. M. P. S. W.* Cf. Willis's Portland, p. 655.

XI. WHERE THICK-EMBOW'RING SHADES. *Dr. Benjamin Church, A¹ A² B. E. E² H. L. M. N. S. Peter Oliver, esq., W.* The *Critical Review* calls this much the best of the English poems.

Judge Oliver, at this time on the Supreme Bench, had graduated in 1730, and was now forty-eight years old.

XII. QUID SIBI VULT, etc. *Stephen Sewall, A¹ E. H. L. M. P. S. W.*

XIII. AS, ON HER WHITE-CLIFT, SEA-GIRT SHORE. *Rev. Samuel Cooper, A¹ E. H. M. S. W. Peter Oliver, B. E² A. H. Everett* adds, "a species of measure generally unsuccessful in English poetry, lyric verse without rhyme."

Cooper was at this time thirty-six years old, and had graduated eighteen years before (1743). He was now settled over the Brattle Street Church in Boston, and got his doctorate, which gave him the title he is usually known by, in 1767, from the University of Edinburgh.

XIV. DEBILI TENTURA VIAM VOLATA. *Stephen Sewall, A¹ E. H. M. S. W.**

XV. 'ΕΑΓΓΕΙΟΝ. *Stephen Sewall, A¹ B. E. E² H. L. M. P. S. W.*

XVI. 'ΟΔΗ. *Stephen Sewall. A¹ B. E. E² H. L. M. N. P. S. W.*

XVII. HAIL KINDRED SPIRIT! *James Bowdoin, A² A³ says "J. B., esq." B. E. E² H. L. M. P.* says "Tho't to be Mr. Bowdoin." S. W.

XVIII. 'ΕΠΙΤΑΦΙΟΝ. *Gov. Bernard, A¹ B. E. E² H. L. M. P. S. W.*

XIX. EPITAPHIUM. *Gov. Bernard, A¹ A² B. E. E² H. L. M. P. S. W.*

XX. EPITAPH. *Gov. Bernard, A¹? B. E. E² H. M. S. W.*

XXI. IN REGIS INAUGURATIONEM. **H*. M.** Each with a pencil note, which reads, "By *Dr. Deane* of Portland, then Butler in College, on authority of Dr. Weed, class of 1800 and Rev. Dr. Nichols." The Odell Catalogue assigns it to *Gov. Francis Bernard*. Cf. *Historical Magazine*, ii. 281; and Willis's *Memoir of Samuel Deane*, prefixed to his *Diary*, p. 290. See also no. x.

Deane had graduated in 1760 at eighteen, and was at this time the Librarian of the College.

XXII. DUM VARIAS GRATIS, etc. *This is not assigned in any of the lists.*

XXIII. QUEM VIRUM MAVULT, etc. *Stephen Sewall, A¹ A² B. E. E² H. L. M. P. S. W.*

XXIV. EPITHALAMIUM. *This is not assigned in any of the lists.*

XXV. GEORGE GAVE THE WORD. *Master J. Lovell, A¹ E. H. M. S. W.**

XXVI. DUM SERVAT STELLAS. *Master John Lovell, A² A³ B. E² L. W. Prof. John Winthrop, A¹ E. H. M. S.* A. H. Everett adds "It has more to recommend it, than mere elegance and purity of expression, — the usual acme of modern Latin poetry; the thoughts are ingenious and happy."

Winthrop was the Hollis professor of mathematics and natural philosophy in the College. He was born in 1714, and had graduated nearly thirty years before this.

XXVII. WHILE HALLEY VIEWS THE HEAVENS. *Master John Lovell, A² A³ B. E² L. W. Prof. John Winthrop, A¹ E. H. M. S.* A. H. Everett says "The English translation," of No. xxvi., "is not much inferior to the Latin."

XXVIII. SOME SERAPH TOUCH THE SACRED LYRE! *Rev. Samuel Cooper, E. H. M. W.** A. H. Everett gives it to Dr. C. from "internal evidence."

XXIX. THO' FROM THY HAPPY SHORES. *Stephen Sewall, A³ B. E² L. P. W. Peter Oliver, E. H. M.?* (In the H. record *Peter* is in pencil.) *Thomas Oliver, A¹ M.?* S.

Thomas, of a different family from Peter Oliver, was born 1734, graduated 1753, and became subsequently the last of the line of royal lieutenant governors.

XXX. THO' WEALTH AND POWER. *James Bowdoin, A³ says "J. B., esq." B. E² H*. L. M.*

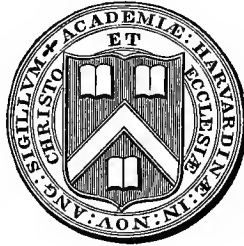
XXXI. EPILOGUS. *Gov. Francis Bernard, A¹ E. H. M. S. W.*

Library of Harvard University.

BIBLIOGRAPHICAL CONTRIBUTIONS.

EDITED BY JUSTIN WINSOR,
LIBRARIAN.

NO. 7.



THE DANTE COLLECTIONS IN THE HARVARD COLLEGE
AND BOSTON PUBLIC LIBRARIES.

PART I.

By WILLIAM COOLIDGE LANE.

REPUBLISHED FROM THE BULLETIN OF HARVARD UNIVERSITY.

CAMBRIDGE, MASS. :
UNIVERSITY PRESS: JOHN WILSON AND SON.

1885.

Already issued or in preparation :

A Star prefixed indicates they are not yet ready.

1. EDWARD S. HOLDEN. Index-Catalogue of Books and Memoirs on the Transits of Mercury.
2. JUSTIN WINSOR. Shakespeare's Poems: a Bibliography of the Earlier Editions.
3. CHARLES ELIOT NORTON. Principal books relating to the Life and Works of Michelangelo, with Notes.
4. JUSTIN WINSOR. Pietas et Gratulatio. An Inquiry into the authorship of the several pieces.
5. LIST OF APPARATUS in different Laboratories of the United States, available for Scientific Researches involving Accurate Measurements.
6. THE COLLECTION OF BOOKS AND AUTOGRAPHS, bequeathed to Harvard College Library, by the Honorable Charles Sumner.
7. WILLIAM C. LANE. The Dante Collections in the Harvard College and Boston Public Libraries.
8. CALENDAR of the Arthur Lee Manuscripts in Harvard College Library.
9. GEORGE LINCOLN GOODALE. The Floras of different countries.
10. JUSTIN WINSOR. Halliwelliana: a Bibliography of the Publications of James Orchard Halliwell-Phillipps.
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12. A LIST OF THE PUBLICATIONS of Harvard University and its Officers, 1870-1880.
13. SAMUEL H. SCUDDER. A Bibliography of Fossil Insects.
14. WILLIAM H. TILLINGHAST. Notes on the Historical Hydrography of the Handkerchief Shoal in the Bahamas.
15. J. D. WHITNEY. List of American Authors in Geology and Palæontology.
16. RICHARD BLISS. Classified Index to the Maps in Petermann's Geographische Mittheilungen. 1855-1881.
17. RICHARD BLISS. Classified Index to the Maps in the Royal Geographical Society's Publications. 1830-1883.
18. JUSTIN WINSOR. The Bibliography of Ptolemy's Geography.
- *19. JUSTIN WINSOR. The Kohl Collection of Early Maps.

THE DANTE COLLECTIONS

IN THE

HARVARD COLLEGE AND BOSTON PUBLIC LIBRARIES.

BY

WILLIAM COOLIDGE LANE,
Catalogue Department, Harvard College Library.

** BPL. (followed by a shelf-mark) stands for Boston Public Library. Additional titles are given from the private collections of Professor Charles Eliot Norton, and the late Professor George Ticknor, which are indicated respectively by N. and T. All other marks designate books in the College Library, of which those beginning with Dn. indicate the books of a special Dante collection.

Care has been taken to give full information in regard to the contents and distinguishing characteristics of each edition of Dante, and to describe the various portraits of Dante as fully as possible. The number of pages is given only for the older books, and for modern books when less than a hundred.

I.

DANTE'S WORKS.

Divina Commedia.

(Including editions of separate parts of the poem, and complete editions of Dante's works.)

MANUSCRIPTS.

1. — [L'inferno e il purgatorio di Dante, ending with canto xxi. v. 63 of the Purgatorio. Manuscript on paper of the 15th century.] f. ff. 108. Dn. r.1

This manuscript was formerly in the possession of Baron Seymour Kirkup and is described by Colomb de Batines (ii. 104). It was bought at the sale of his library in 1871 by Ellis & White for £20, and was purchased for this library by the Dante society for £25. It has Latin annotations in the margin which Colomb de Batines considers to be in the same hand as those in the codex laurenziana, Plut. xl. no. ii. From an inscription in the end it appears to have belonged to the Grimaldi family of Genoa.

2. — [L' inferno e il paradiso di Dante, col commento detto il Falso Boccaccio. *At end.:*] Scriptū per me bartolomeum filium andēe maçonis delnce. — Sub, annis dñi Mille cccc^o. vij. [1457]. Deo Gratias Amē. f. ff. 158. (N.)

A beautiful ms. on paper written in large Gothic letters, with marginal notes to the first fourteen cantos of each cantica in smaller character taken from the comment known as the "Falso Boccaccio." Each canto begins with a title and argument in red and an ornamental initial. A large and elaborate initial begins the Inferno. On the verso of the last leaf

stand the two epitaphs on Dante beginning "Inclita fama" and "Jura monarchiae." This ms. belonged to Baron Kirkup and is described by Colomb de Batines, ii. 103.

Laid in this volume is a single sheet of vellum containing lines 64-135 of canto xxiv. of the Inferno, "che certo è della prima metà del sec. xiv., e scritta in carattere tondo tanto bello e nitido da far quasi credere che sia un fac-simile. Se questo codice tutavia esiste, io lo direi uno de' più antichi, e de' più notabili quanto alla calligrafia."—ii. 104.

3. — El inferno del Dante. Canto quinto, séptimo. [En verso castellano.] f. pp. 8. (BPL. No. 7 in **D. 3)

EDITIONS OF THE ITALIAN TEXT.*

(Arranged chronologically.)

4. — [La divina commedia col commento di BENVENUTO DA IMOLA e colla vita di questo poeta scritta da Giovanni Boccaccio. Venezia, Vendelin da Spira. 1477.] f. ff. (373). Dn. 14.77

There is no title page. The outer column on each side of the first leaf, and the whole of the last page are filled in in ms. The first page bears the stamp "Ex Bibl. Jos. Ren Card. Imperialis."

* Complete works, nos. 29, 65.

Divina commedia and Lyric poems, no 53.

Inferno, nos. 49, 59, 71, 77, 88, 92, 111, 113; the same, with translation, 138, 139, 148, 186, 188, 193, 195, 234; the same, in part, 104, 107.

Purgatorio, with translation, nos. 137, 146, 189.

Paradiso, with translation, no. 131.

Selections, nos 122-127.

The work ends with "Capitoli" in verse by Busone da Gobbio and by Jacopo Alighieri, the Credo of Dante, and a colophon in verse giving the name of commentator, editor, and publisher, with the date.

The first fifteen leaves containing the Life by Boccaccio are often wanting. The commentary has been also ascribed to Jacopo della Lana. If by Benvenuto, it must be a translation, as the original, still unpublished, is in Latin.

"Edizione accuratissima per l'esecuzione tipografica. Assai rara." — Colomb de Batines, i. 23. See also Hain, *Rep. bibliog.* no. 5942.

5. — Comento di CHRISTOPHORO LANDINO fiorentino sopra la Comedia di Danthe Alighieri poeta fiorentino. [*Colophon*:] Impresso in Firenze per Nicholo di Lorenzo della Magna a di .xxx. dagosto .m.cccc.lxxxii. [1481]. f. ff. (372). 2 engrav. (N. T.)

The first Florentine edition. The first fourteen leaves (of which the first and last are blank) contain various introductory matters, which will be found also in the editions of 1491, 1493, 1497, 1507, 1529, 1564, 1578 [nos. 6, 7, 8, 12, 15, 19, 22], as well as in other editions not included in this catalogue.

The two engravings (by Baccio Baldini from designs by Botticelli) are at the beginning of the first two cantos of the Inferno. Space is left for an illustration at the beginning of each canto and some copies of this edition have as many as nineteen, twenty, or twenty-one inserted, but none have more than this. The first cantos of the Inferno and Purgatorio of Professor Norton's copy have each an elaborate illuminated initial: that of the Inferno contains a portrait of Dante, and in the ornament on the margin is the golden shield of the Medici bearing the seven balls of Piero de' Medici. As he died in 1469 the copy probably belonged to one of his children, previous to the change made by Lorenzo de' Medici in the number of the balls. Colomb de Batines gives a careful bibliographical description (i. 36-46) and mentions all the copies of note known to him.

Prof. Norton's copy is bound in three volumes, that in Mr. Ticknor's library is bound in one volume.

6. — [La divina commedia; col comento di CRISTOFORO LANDINO. *At end*:] Finita e lopa delicyto & diuo dâthe allegghieri poeta fioretino reuista & emedata diligetemente p el reueredo maestro Piero da figio: & ha posto molte cose i diuersi luoghi che ha trouato mâcare i tutti edati liqli sono stati stâpadi excepto qsti Impressi i uenesia p Bernardino benali & Mathio da parma del. mcccclxxxii. adi. iiii. marzo [1491]. f. ff. colxxxxii. *Wdcts.*

Dn. 14.91

Ten unnumbered leaves of introductory matter at the beginning and one leaf at end are wanting. Differs slightly from the descriptions of this edition given in Colomb de Batines, i. 52, and in Hain, *Rep. bibliog.* no. 5949.

The Credo, Pater nostro, and Ave Maria of Dante follow the colophon.

The edition contains three full-page wood-cuts and many curious smaller ones, found also in the editions of 1493, 1507 and 1529 [nos. 7, 12, 15]. In the edition of 1497 (and probably in others) the same designs appear, but on a larger scale and engraved with finer execution. They are reproduced in the 3 vol. edition published in Milan in 1864-66 [no. 101].

7. — Danthe alegieri fiorentino. [With the comment of CHRISTOPHORO LANDINO. *At end*:] Finita e lopa delinclyto & diuo Dâthe allegghieri poeta fioretino reuista & emedata diligetemente p el reueredo maestro Piero da Figino & ha posto molte cose i diuersi luoghi che ha trouato mâcare si i lo texto cõe nella giosa. Impressa in Venetia per Matheo di chodecha da parma. Del. mcccclxxxiii. Adi. xxix. de Nouembre [1493]. ff. (10), ccxcix. [300], (1) = 311. f. ff. *Wdcts.* (N.)

Imperfect: f. 1 with its full-page wood-cut is wanting, the larger part of f. 2 and a portion of the last leaf are also missing, and several other leaves are imperfect. The whole number of pages should be 311, not 310 as stated by Colomb de Batines, and as would seem to be the case from the paging. It should be noted that sig. x has but 7 leaves. At the beginning of each of the three parts is a full-page wood-cut, and smaller ones at the head of each canto, like those in the edition of 1491.

The first ten leaves contain the introductory matter common to several editions of this period, and the Credo, Pater nostro and Ave Maria of Dante follow at the end of the Paradiso.

8. — Danthe alighieri fiorentino. [*At end*:] Fine del comento di CHRISTOFORO LANDINO Fiorentino sopra la Comedia di Dâthe reuista & emendata diligetemente per el reueredo maestro Piero da Figino & ha posto molte cose in diuersi luoghi che ha trouato mâcare si i lo texto come nella giosa. Impressa in Venetia per Pietro de zuanne di quarengii da palazago bergamesco. Del m.cccc.lxxxvii. A di. xi. octubrio [1497]. f. ff. (10), ccxcvii, (1). *Wdcts.* (N.)

At the beginning of the Inferno is a full-page wood-cut, and smaller ones stand at the head of each canto. They are the same in design as those of the editions of 1491, 1493, etc. but on a larger scale and engraved with finer execution. The first ten leaves contain prolegomena like the earlier editions. At the end of the Paradiso are given the Credo, the Pater nostro and the Ave Maria of Dante.

9. — Le terze rime di Dante. [*Colophon*:] Venetiis in aedib. Aldi. accuratissime. Men. avg. mdii. [1502]. sm. 8. ff. (244). (N.)

The first edition of Dante of small size. All the editions of the fifteenth century had been folios. This contains neither preface nor notes. On the verso of the last leaf is the familiar emblem of the anchor and dolphin used here and in an edition of Sedulius published in the same year, for the first time. Some copies of this edition have no anchor, from which Renouard concludes that Aldus did not have the block at hand when he began to print the volume. See Colomb de Batines, i. 60. Renouard, *Annales des Aldes*, i. 61, 81; Firmin-Didot, *Aide Manuce*, p. 210.

10. — Commedia, insieme con vno dialogo circa el sito forma et misvre dello inferno [di Antonio Manetti]. [*Colophon*:] Impresso in Firenze per opera & spesa di Filippo di Giunta Fiorentino gli anni della salutifera incarnatione .m.dvi. a di .xx. dAgosto [1506]. sm. 8. 7 *wdcts.* Dn. 25.6

Preceded by "Cantico di Hieronymo Beniuini cittadino fiorentino in laude dello eccellentissimo Poeta Dante Alighieri, et della sequente commedia da lui diuinamente composta," in terza rima.

"Edizione accreditatissima e rarissima. Il testo fu dal signor Viviani (Ediz. di Udine) giudicato eccellente e pieno di molte belle lezioni che si trovano concordare col codice bartoliniano." — Colomb de Batines, i. 64.

This copy has the book-plate of "le comte D. Boutourlin" and the autograph of "Seymour Stocker Kirkup."

11. — Dante col sito, et forma dell' inferno. [Toscolano. circa 1506?] sm. 8. *Wdct.* and 3 *diagrs.* Dn. 25.6.2

On the last page is the following: — "P. Alex. Pag[anus]. Benaceses. .f. Beaa. .v. .v." The last part is thought to mean "Fecerunt Benacesenses, viva, viva," and to record the establishment of their office in Toscolano. "Leggiadra edizione e poco comune." — Colomb de Batines, i. 69.

12. — Danthe alighieri Fiorentino historiado. Cum gratia & priuilegio. [*At end*:] Fine dei cometo di CHRISTOFORO LANDINO Fioretino reuista & emedata diligetemente p el reueredo maestro Piero da Figino & ha posto molte cose i diuersi luoghi che ha trouato mâcare si i lo texto cõe nella giosa. Impressa in Venetia per Bartholomeo de Zanni da Portese. Del. m.d.vii. A di. xvii. de Zugno [1507]. f. ff. (10), ccxcviii. *Wdcts.* (N.)

The wood-cuts are a full-page cut at the beginning of the Inferno, and small ones at the head of each canto. The first ten unnumbered leaves and the recto of f. 1 contain the prolegomena of the edition of 1481. At the end of the Paradiso follow the Credo, Pater nostro and Ave Maria as in the other editions mentioned above, but in this case the colophon stands

after these, instead of between them and the poem as in earlier editions.

"Questa edizione, ch'è ristampa di quella del 1497, ha questo di singolare, che essa contiene il testo dell' *Aldina* con note le quali non vi corrispondono. È piuttosto rara. — Colomb de Batines, 1. 08.

13. — Dante col sito, et forma dell' inferno tratta dalla istessa descrizione del poeta. [*Colophon*:] Impresso in Vinegia nelle case d' Aldo & d' Andrea di Asola suo suocero nell' anno M.D.XV. Del mese di Agosto [1515]. sm. 8°. ff. (2), 244, (4). 3 *diagrs.* (N.)

Reprint, page by page, of the Aldine edition of 1502 and of the undated Paganini edition of 1506.

The first two leaves contain a dedication. "Alla valerosa madonna Vittoria Colonna Marchesana di Pescara," and the *Aldina* anchor is found on the first and third leaves, and on the recte of the last leaf.

14. — Oper'e del divino poeta Danthe con suoi comentì: recorrecti et con ogni diligentia nouamente in littera cursive impresse. In Bibliotheca S. Bernardini. [*At end*:] Fine del comento di CHRISTOFORO LANDINO Fiorétino sopra la comedia di Danthe, reuista & emendata diligentemente per el reuerendo maestro Pietro da Figno & ha posto molte cose in diuersi luoghi che ha trouato mancare si in lo texto come nella giosa etiam nouiter per altri excellenti huomini. Impressa in Venetia per Miser Bernardino stagnino da Trino de monferra. Del. MCCCC.XX. A di XXVII. Marzo [1520]. 4°. ff. (12), 441 [440]. *Wdcts.* (N.)

The wood-cuts are a full-page cut at the beginning of the *Inferno*, small ones at the head of each canto (all different from the cuts in the earlier editions mentioned above), a vignette of St. Bernard and a wood-cut of Adam and Eve on the title-page, the latter being repeated on the first page of the *Inferno*.

"Edizione rara e molto stimata."—Colomb de Batines, i. 78.

15. — Comedia: cõ l' esposizione di CHRISTOFORO LANDINO: nouamente impressa: e con somma diligentia reuista & emendata. MDCXXIX. [*Colophon*:] Stäpato in Venetia per Iacob del Burgofraco. Nell'anno del nostro signor .M.D.XXIX. A di .XXIII. di Genaro [1529]. f°. ff. (12), cccxcv. *Port.* and *wdcts.* Dn. 15.29

The title is enclosed in an illustrated border. The text is a reproduction, with but few variations, of the Aldine edition of 1502. The eleven leaves following the title-page contain the introductory matters of the edition of 1481 and following editions, and the *Crede*, *Pater nostro*, and *Ave Maria* follow the *Paradiso*. The wood-cuts are a portrait on the reverse of the title-page, large cuts at the beginning of each cantica (that at the beginning of the *Inferno* having an ornamental border) and smaller ones at the head of each canto. They are the same as in the edition of 1481 and others.

"Edizione difficile a trovarsi."—Colomb de Batines, i. 79.

16. — Comedia del divino poeta Danthe Alighieri, con la dotta & leggiadra spositione di CHRISTOFORO LANDINO: con somma diligentia & accuratissimo studio nouamente correctta, & emendata: . . . Aggintati di nouo vna copiosissima Tanola. In Vinegia, [per M. Bernardino Stagnino]. 1536. 4°. *Vign.* of Dante, and *wdcts.* Dn. 25.36 (BPL. *4792.4)

"With the exception of the Title and the 'Tavela,' this is a page for page reprint of the editions of 1512 and 1520. The illustrations are the same (except that the vignette and engraved ornamental frame work of the first page of the *Inferno* are omitted). The differences in the text, such as there are, or, at least, such as I have noted, are only of orthography."—C. E. N.

17. — La comedia di Dante Alighieri con la noua esposizione di ALESSANDRO VELLUTELLO. [*Colophon*:] Impressa in Vinegia per Francesco

Marcolini ad instantia di Alessandro Vellutello del mese di Gugno l'anno MDXLIII [1544]. 4°. *Wdcts.* (N. T.)

The first 26 leaves contain the dedication to Pope Paul III., an address to the reader, "Vita e costumi del poeta," and "Descrittione de lo inferno" with ten cuts.

This is the first edition with Vellutello's comment. The wood-cuts are three full-page cuts at the beginning of each part of the poem, and smaller cuts, one for each canto. They are entirely different from those published in earlier editions with Landino's comment.

18. — Il Dante, Con argomenti, & dechiaratione de molti luoghi, nouamente reuisto, & stampato. In Lione, per Giovan di Tornues. 1547. 16°. *Vign.* of Dante. Dn. 25.47

"Dee il suo principale ed unico pregio alla picciolezza de' caratteri ed alla leggiadria della stampa."—Gamba, *Serie dei testi*, p. 125.

19. — Dante, con lespositione di CHRISTOFORO LANDINO, et di ALESSANDRO VELLUTELLO. Con tauole, argomenti, & allegorie, & riformato, rineduto, & ridotto alla sua nera lettura, per Francesco Sansovino. Venetia, appresso Giouambattista, Marchio Sessa, & fratelli. 1564. f°. *Port.* and *wdcts.* (N.)

The colophon reads, "Appresso Demenico Nicolino. Per Giouambattista, etc."

Contains all of the usual introductory matter of the editions of Landino and Vellutello, with the wood-cuts of Vellutello's edition of 1544 [no. 17]. The text follows the Aldine edition of 1502 with a more modern orthography.

Portrait:—On the title-page, enclosed in a highly ornamented border; the same as that in the edition of 1578 [no. 22].

20. — Dante con l' esposizione di M. BERNARDINO DANIELLO DA LVCCA, Sopra la sua Comedia dell' Inferno, del Purgatorio, & del Paradiso; nouamente stampato, & posto in luce. Venetia, appresso Pietro da Fino. 1568. 4°. 3 *plates*, and *vigns.* Dn. 25.68

The only edition of Daniello's Comment published, and valued on that account. Fourteen verses are by mistake omitted in the sixth canto of the *Purgatorio*. The comment has been attributed to *Gabriello Trifone*, but without good reason.

21. — La divina comedia, di nouo alla sua uera lettione ridotta con lo aiuto di molti antichissimi esemplari. Con argomenti, & allegorie per ciascun canto, & apostille nel margine. Et indice copiosissimo di vocaboli più importanti, con la spositione loro. [Edited by Lodovico Dolce.] Vinegia, appresso Domenico Farri. 1569. 24°. Dn. 25.69

"Vita descritta da M. Lodovico Dolce." pp. vii-ix. "Edizione eseguita sopra quella del Giohno, 1555, e col medesimo numero di facce."—Colomb de Batines, i. 94.

22. — Dante con l' esposizioni di CHRISTOFORO LANDINO, et d' ALESSANDRO VELLUTELLO. Con tauole, argomenti, etc., per Francesco Sansovino. Venetia, appresso Giouambattista, Marchio Sessa, & fratelli. 1578. f°. *Port.* and *wdcts.* (N.)

The colophon reads "Appresse gli Heredi di Francesco Rampazetto. Ad instantia di Giouambattista, etc."

This is a reprint, almost in fac-simile, of the edition of 1564. The dedication is different and the headings of the introductory matter vary, but otherwise the correspondence is very close.

23. — La divina comedia ridotta a miglior lezione dagli ACCADEMICI DELLA CRUSCA. Con privilegio. In Firenze, per Domenico Manzani. 1595. 16°. *Vigns.* and *ornamental initials.* (N.)

"Edizione reputatissima, dovuta alle cure di vari accademici [della Crusca], i quali si attenero all' *Aldina* del 1502, consultando nel tempo istesso più di 100 cecidi di grande reputazione, di cui 52 se ne citano nell' *Avviso* al lettore. . . . Caduta disgraziatamente in mano di stampatore negligentissimo, riuscì zeppata d'errori. . . ."—Colomb de Batines, i. 99.

24. — La divina commedia ridotta a miglior lezione dagli ACCADEMICI DELLA CRUSCA, seconda impressione accresciuta degli argomenti, allegorie, e spiega de' vocaboli oscuri. Dedicata al dottor Tommaso Farina [by Celenio Zaccatori, i. e. Lorenzo Ciccarelli]. 1 vol. in 2. Napoli, *Francesco Leano*. 1716. 16°. Dn. 27.16

"Comunemente giudicata più corretta di quella del 1595. Gli argomenti e le allegorie sono copiati dall' edizione del Giolito, 1555." — Colomb de Batines, i. 103.

25. — La divina commedia, già ridotta a miglior lezione dagli Accademici della Crusca; ed ora accresciuta di un doppio rimario [da Carlo Noci], e di tre indici per opere del sig. G. A. Volpi. 3 vol. Padova, *Giuseppe Comino*. 1727, '26-27. sm. 8°. Port. and plate.

(T. BPL. 4790.48)

Contents: — Vol. i. contains (besides the text of the Divina commedia) the following: —

i. Vita di Dante e del Petrarca, da Lionardo Aretino. — Principio d' un capitolo del abate A. M. Salvini al sig. F. Redi. — Catalogo di molte delle principali edizioni che sono state fatte della Div. com. — Sonetto del conte G. N. A. Montanari al Volpi, e Sonetto del Volpi in risposta. — [Lettera di B. de' Rossi a L. Torrigiani.] — Opinione intorno al tempo del viaggio di Dante. — Autorità de' testi.

ii. Rimario di tutte le desinenze de' versi della Divina commedia, opera già pubblicata in 1602 da C. Noci, ed ora migliorata [da Volpi]. — Indice delle sole desinenze de' versi della Divina commedia.

iii. Argomenti e le allegorie sopra ogni canto del poema di Dante, e tre indici composti dal Volpi.

This edition, at the time of its publication, was generally thought to excel all previous editions, and has been frequently republished. It follows the 1595 edition [no. 23], the text of which it reproduces in a corrected form. See Colomb de Batines, i. 104.

Portrait: — "Disegnato da M. A. Cornali e inciso dall' Heylbroeck, copia di quello di Bernardo India, celebre pittor veronese, che si conservava nel museo di Bernardino Lisca."

— See no. 233. Della commedia trasportata in verso latino da CARLO D' AQUINO. *Ital. and Lat.* 1728.

26. — Dante con una breve e sufficiente dichiarazione del senso letterale diversa in più luoghi da quella degli antichi comentatori. [By POMPEO VENTURI. Edited by G. B. Placidi.] 3 vol. Lucca, per S. D. Cappuri, a spese della società [di Gesù]. 1732. 8°. Dn. 27.32

"Prima edizione col commento del padre Venturi. È divenuta assai rara." — Colomb de Batines, i. 106. Vol. ii. and iii. have only a half-title.

27. — La divina commedia, con gli argomenti, allegorie e dichiarazioni di LODOVICO DOLCE. Aggiuntovi la vita del poeta, il Rimario e due indici utilissimi. Bergamo, *Pietro Lancellotti*. 1752. 12°. (T.)

Edited by the abate, P. A. Serassi. The text follows that of the editions of 1595 and 1727 [no. 23 and 25], revised from a ms. in the possession of Mgr. Albani of Bergamo.

28. — La divina commedia dell' inferno, poemetto morale, e filosofico; colle annotazioni distinte, ch' esplicano chiaramente il testo. Da NICOLÒ CIANGULO. Lipsia, appresso *Giovanni Samuel Heinsio heredi*. 1755. sm. 8°. Dn. 27.55

"È la prima edizione stampata in Germania." — Scartazzini, *Dante in Germania*, ii. 134.

29. — La divina commedia con varie annotazioni, e copiosi rami adornata. Dedicata alla sagra imperial maestà di Elisabetta Petrowna, dal conte CRISTOFORO ZAPATA DI CISNEROS. Tom. i.-iii.; — Prose, e rime liriche, con copie e ed erudite aggiunte. Tom. iv. in 2 pt. 4 tom. in 5. Venezia, *Antonio Zatta*. 1757-58. 4°. 112 plates. Dn. 17.57 (T. BPL. 4801.50)

"È questa edizione fatta con lusso, ma con poco buon gusto nella scelta degli ornamenti, vignette, fregi e figure. In fine d' ogni canto porta le Annotazioni del *Venturi* e del *Volpi*." — Gamba, *Serie dei testi di lingua*, p. 128.

"Memorie per servire alla vita di Dante." iv. (2), 1-140.

"Lettera di Gius. Valeriano cav. Vannetti intorno ad alcune circostanze della vita di Dante, ed all' aver egli di morato nella Val Lagarina, e quici composta una sua canzone." iv. (2), 141-168.

The text is, with few exceptions, that of the edition of Padova, 1727.

Portrait: — "Tratto da un antico originale, che trovai nella Toscana." Name of engraver not given. Paur thinks it to be possibly the foundation of Morghen's famous portrait so often reproduced. Another plate gives a number of medals bearing Dante's profile.

— See no. 188. La divine comédie, l'enfer. Par MOUTONNET DE CLAIRFONS. *Ital. and French*. 1776.

30. — [La divina commedia, pubblicata da ANDREA RUBBI.] 3 vol. Venezia, presso *Antonio Zatta e figli*. 1784. 16°. Port. and vigns. (Parnaso italiano, iii.-v.) (BPL.*2769.2)

Volpi's Indici from the edition of 1726-27 are printed at the end of each volume. In vol. iii. are "Notizie storiche e critiche," and "Paragone di Dante col Buonarroti," pp. 218-223.

At the head of each canto is a vignette engraved by C. dell'Acqua and others.

Portrait: — A vignette on the title-page of each volume.

— See no. 193. L'enfer [par ANTOINE RIVAROLI, dit COMTE DE RIVAROL]. *Ital. and French*. 1785.

31. — Inferno, poema. Parigi, *C. A. J. Jacob*. 1787. 24°. Dn. 27.87

32. — Purgatorio, poema. Parigi, *C. A. J. Jacob*. 1787. 24°. Dn. 27.87.2

33. — Paradiso, poema. Parigi, *C. A. J. Jacob*. 1787. 24°. Dn. 27.87.3

34. — La divina commedia novamente corretta spiegata e difesa da F. B. L. M. C. [FR. BALDASSARE LOMBARDI minor conventuale.] 3 vol. Roma, presso *Antonio Felgoni*. 1791. 4°. 3 plates, and vigns. Dn. 17.91

"Vita scritta dall' abate P. A. Serassi." 1. xvii.-xxxiii. "Dello stile di Dante. Elogio di F. R. Morando." 1. xxiv.-xxv.

"Della cagione per cui abbia Dante voluto a questo suo poema dare il titolo di *Commedia*." F. R. Morando. 1. xxvi.-xxvii.

Lombardi spent many years of his life in preparing this edition of the Divina commedia. He consulted all the best editions and many valuable manuscripts unknown to the Accademia della Crusca whose edition was published in 1595. The latter had been generally accepted as of the greatest accuracy, but Lombardi introduced many new readings and his text has been adopted as the basis of most modern editions.

This copy belonged to Lombardi himself and contains numerous and important additions in ms. as he meditated a new edition. They were but partially used in the edition printed at Rome by De Romanis in 1815-16 [no. 44]. A complimentary letter from Cardinal Borgia to Lombardi is placed in the first volume.

35. — La divina commedia. [With an introduction and "aggiunta critica" at the end of each vol. by G. J. DE' M. DIONISI.] 3 tom. Parma, nel regal palazzo co' tipi *bdoniani*. 1795. f°. Port. Dn. 7.95

See Colomb de Batines, i. 121; also Foscolo's *Discorso sul testo* (p. 426), in regard to Dionisi's new readings.

Portrait: — "Stefano Tofanello delinea; Raffaello Morghen incise in Ferro."

36. — La divina commedia. 3 vol. Penig, a spese di F. Dienemann e comp. 1804. 4°. (N.) "Bella edizione giudicata correttissima, pubblicata per cura del professore *Fernow*. L' editore ha aguito la lezione degli

Accademici sull' edizione datane dallo Zatta nel 1757, conferendola con quella del Lombardi."—Colomb de Batines, i. 127.

Scartazzini says that Fernow had no part in the work. The unsold copies of this edition passed through various hands and appeared at several later dates. Such a case the edition catalogued beyond with the imprint "Breslavia, 1843" [no. 78] seems to be.

Some bibliographies mention a 4th volume, but it is doubtful if more than the three were ever published. Thirty-nine folio plates by Hummel from Flaxman's designs, illustrating the Inferno, were published with the work, but are wanting in this copy.

37. — La divina commedia. Illustrata di note da LUIGI PORTIRELLI. 3 vol. Milano, dalla società tipog. de' classici italiani. 1804-05. 8°. Port. and 3 plates. Dn. 28.4 (BPL. *4801.1)

"Vita" by G. Tiraboschi. 1. xxvii-lxvii. The notes are drawn mostly from Lombardi and Jacopo della Lana.—See Colomb de Batines, i. 125.

Portrait:—"G. Benaglia dis. ed inc." Wanting in the HCL copy.

38. — La divina commedia. Con illustrazioni [by GIOVANNI ROSINI]. 4 tom. in 2. Pisa, dalla tipog. della società letteraria. 1804-09. f°. 2 portrs. and 3 plates.

Dn. 8.4.2 (BPL. **G. 10.50)

250 copies. The BPL copy is one of 20 on vellum paper. Vol. iv. contains "Vita di Dante e gli Indici del Volpi, ristretti e riformati." See Colomb de Batines, i. 126.

Portraits:—Dante, "Stefano Tofanelli delin. et sculp.;" Raffaello Morghen incis. in Firenze";—Card. Despuig (to whom the work is dedicated), "Tofanelli del.;" Petr. Bettelemi sculp. Romae."

Plates:—Two by Bettelini, one by Lapi, "Raff. Morghen dresse." These are not found in all copies and did not originally belong to the HCL copy. They were presented to the library by Baron Ferd. Botta.

— The same. Vol. i.-iii. 1804. f°. 2 portrs. Dn. 8.4

39. — La divina commedia copiata dalla edizione romana del P. LOMBARDI. S' aggiungono le varie lezioni, le dichiarazioni necessarie, e la vita dell' autore nuovamente compendiate da C. L. FERNOW. 3 tom. Jena, presso Fed. Frommann. 1807. 12°. (Raccolta di autori classici italiani. Poeti, 1-3.) Dn. 28.7

Considered the best of the earlier German editions. See Colomb de Batines, i. 130.

40. — La divina commedia, già ridotta a miglior lezione dagli Accademici della Crusca, ed ora accuratamente emendata, ed accresciuta di varie lezioni, tratte da un antichissimo codice. [Edited by GAETANO POGGIALI.] 4 tom. in 2. Livorno, presso Tommaso Masi e comp. co' tipi bodoniani. 1807-13. 8°. Port. and plate.

Dn. 28.7.2 (BPL. *2800.20)

Contents:—i., ii. Divina commedia.—iii., iv. Vita di Dante scritta da Leonardo Aretino. Annotazioni.

Portrait:—"Stefano Tofanelli delin.—Raffaello Morghen inc."

41. — La divina commedia. 3 vol. Milano, Mussi. 1808-09. 32°. (T.)

42. — La divina commedia, edizione formata sopra quella di Comino del 1727, con indici ricchissimi composti da G. A. VOLPI. 2 vol. Venezia, Vittarelli. 1811. 16°. (Collezione d' alcuni classici italiani.) (T.)

Vol. i. contains the text, vol. ii. the indices.

43. — La divina commedia, col commento del P. POMPEO VENTURI, edizione conforme al testo cominiano del 1727. 3 vol. Firenze, Niccolò Carli. 1813. 12°. (T.)

Vol. i. contains Venturi's preface to the first edition which contained his comment, Lucca, 1732, and Aretino's Life of Dante.

44. — La divina commedia corretta, spiegata e difesa dal P. BALDASSARRE LOMBARDI nel 1791. Riscotrata ora sopra preziosi codici, nuovamente emendata di molte altre vaghe annotazioni [by FILIPPO DE ROMANIS]. Tom. i.-iii.; —Le principali cose appartenenti alla Divina commedia, cioè il Rimario, la Visione di Alberico, la vita del poeta, etc. [iv.] 4 tom. Roma, nella stamperia de Romanis. 1815-17. 4°. Port. and 3 plates.

Dn. 18.15 (T. BPL. *2801.1)

For the sources which De Romanis consulted and the contents of vol. iv., see Colomb de Batines, i. 137. Portrait:—"Raf. Sanzio dip. L. Durantini dis. Ang. Testa inc." "Il ritratto è copia fedele di quello che si ammirava nello stupendo affresco del Vaticano conosciuto sotto il nome di Disputa del Sacramento."

45. — La divina commedia con tavole in rame. [Edited by A. RENZI, G. MARINI, and G. MUZZI.] 4 tom. Firenze, nella tipog. all' insegna dell' Ancora. 1817-19. f°. Portrs. and 125 plates. Dn. 8.17

Vol. iv. contains:—Vita di Dante Alighieri scritta da Leonardo Aretino.—Breve trattato sopra la forma, posizione, e misura dell' inferno. [G. del Rosso].—Discorso intorno al canto iv. dell' Inferno di Dante. G. F. G. Napione di Cocconato.—Allegoria della Divina commedia [del Marchetti].—Amotazioni [drawn from many ancient commentators].

Portrait:—Medallion vignette on the title-pages of tom. i.-iii.

Plates:—Those of the Inferno (44) and of the Purgatorio (40) were designed by Luigi Ademollo, those of the Paradiso (41) by Nenci. See Artaud de Montor, *Histoire de Dante*, p. 599, note, for a discussion of their merit.

46. — La divina commedia col commento di G. BIAGIOLI. 3 tom. Parigi, Dondey-Dupré. 1818-19. 8°. Dn. 28.18

"Bella e nitida e correttissima edizione." Has been often reprinted. Colomb de Batines (i. 143) mentions a portrait of Dante, but none appears.

47. — La divina commedia, col commento di G. BIAGIOLI. 3 vol. Milano, Silvestri. 1819. 8°. (T.)

A reprint of the edition with Biagioli's comment of the preceding year.

— See no. 234. L' inferno tradotto in versi eroici latini dal dottore ANTONIO CATELLACCI. *Ital. and Lat.* 1819.

48. — La divina commedia di mano del Boccaccio. [Published by LUIGI FANTONI.] Roveta, negli Ochi Santi di Bice. 1820. 1. 8°. Front. and fac-sim. Dn. 28.20 (BPL. 2802.1)

"È copia del codice della Vaticana, no. 3199." Portrait:—"Il ritratto fu inciso sopra un disegno originale ed inedito di Gius. Bossi, che si conserva dal marchese Trivulzio."—Colomb de Batines, i. 143. The frontispiece has also portraits of Boccaccio and Petrarch.

49. — Another copy of the same edition, Inferno only, printed in yellow ink on dark purple paper. Dn. 28.20.2

50. — La divina commedia. Nuova ed. 3 vol. Parigi, G. P. Aillaud. 1822. 32°. Port. Dn. 28.22

Portrait:—"C. Knight sculpt."

51. — La divina commedia col commento del P. BALDASSARRE LOMBARDI, ora nuovamente arricchito di molte illustrazioni edite ed inedite. Vol. i.-iii.; —Il rimario della Divina commedia, l' indice delle voci, e quello de' nomi proprj e delle cose notabili. Vol. iv.; —La biografia di Dante. Varie illustrazioni della Divina commedia, ed il catalogo delle edizioni.

Vol. v. [Edited by G. CAMPI, F. FEDERICI and G. MAFFEI.] 5 vol. Padova, *dalla tipog. della Minerva*. 1822. 8°. *Port.* and 3 plates. Dn. 28.22.2 (BPL. *4800.5)

"Edizione con note di vari, la migliore di tutte le moderne edizioni della Divina commedia."—Colomb de Batines, i. 153.

Portrait (in vol. v.):—No indication given of engraver or designer. It is apparently founded on the death-mask, and is reproduced in Foscolo's edition, 1842-43, where it is signed "H. Robinson," also somewhat smaller in Borghi's edition, 1844. The lithograph in Martini's edition of 1840 is evidently founded on it, as well as the head in Buttura's *Quattro poeti italiani*, 1845, and the portrait in Kok's Dutch translation, 1863-64, which is much reduced, of inferior execution, and signed "D. J. Sluyter." Paur says of it "Das ganze bictet mehr den anblick eines mueteren, etwas weibischen m"onches, als des strengen weltver"achters Dante."

52. — La divina commedia. 2 vol. Londra, *presso C. Corvall, a spese di G. Pickering*. 1823, '22. 48°. *Port.* (N.)

Minute edition in microscopic type.

Portrait:—"R. Morghen dt. R. Gravc sc."

53. — Opere poetiche con note di diversi per diligenza e studio di ANTONIO BUTTURA. 2 tom. Parigi, *presso Lefèvre*. 1823. 8°. *Port.* (I quattro poeti italiani.) (N. T. / BPL. *4208.6)

i. Poesie liriche.—Inferno. ii. Purgatorio.—Paradiso.

"Vita, scritta dal cav. G. Tiraboschi." i. 1-37.

Portrait:—"H. C. Müller sc."

54. — La divina commedia, giusta la lezione del codice bartoliniano. [Edited by the abate QUIRICO VIVIANI.] 3 vol. in 4. Udine, *pei fratelli Mattiuzzi*. 1823-28. 8°. *Plate and facsim.* (N. BPL. 2802.13)

Contents (partial):—i. Tavola de' testi consultati per la presente edizione. Dell' inferno.—ii. Del purgatorio. Del paradiso.—iii. 1. Ragionamento sopra Dante, di F. Torti. Il secolo di Dante: commento storico, di F. Arrivabene.—iii. 2. Dizionario etimologico della Divina commedia. Indici. Supplemento alla tavola nel i. vol.

Plate:—"Dante alla grotta di Tolmino. G. Derif dis. Aliprandi inc. Milara diresse."

— See no. 195. *L'enfer, par J. C. TARVER. Ital. and French*. 1824.

55. — Bellezze della Commedia di Dante Alighieri. Dialoghi d'ANTONIO CESARI [including the complete text]. 3 vol. Verona, *tip. di Paolo Libanti*. 1824-26. 8°.

See Cesari, A. *Bellezze, etc.* 38.127 (BPL. 2801.8)

56. — La commedia illustrata da UGO FOSCOLO. Tom. i. Londra, *Gugl. Pickering*. 1825. 8°. Dn. 130.1

Contents:—Discorso sul testo e su le opinioni diverse prevalenti intorno alla storia e alla emendazione critica della Commedia di Dante.

No more published. Foscolo died in 1827, and the work was taken up again some years later by Mazzini, and completed. See his edition of 1842-43 [no. 75].

57. — La divina commedia. 3 vol. Milano, *per Nicolò Bettoni*. 1825. 8°. *Fronts*. Dn. 28.25

"Le note in piè di pagina son compendiate dai più celebri comenti, meno alcune inedite del Monti, del conte Perticari e della contessa moglie di lui."—Colomb de Batines, i. 161. The portrait of Dante by Bossi is wanting.

58. — La divina commedia, con brevi e chiare note [by Paolo Costa. With illustrations by G. G. MACHIAVELLI.] 3 vol. Bologna, *Gamberini e Parmeggiani*. 1826. 4°. (T.)

Contents:—Vol. i. contains (beside the text of the Inferno and notes by Costa and others) "Vita di Dante di Paolo Costa; Discorso del conte Gio. Marchetti intorno alla prima e principale allegoria del poema di Dante; Descrizione del Inferno." Vol. ii. contains the Purgatorio and notes preceded

by a "Descrizione del Purgatorio," and followed by a "Discorso di Paolo Costa nel quale si dichiarano due luoghi controversi della Div. com." Vol. iii. contains the Paradiso and notes, and a "Descrizione del paradiso."

Gozzi's Argomenti are printed at the head of each canto. Machiavelli's illustrations were designed in Rome in 1806 and 1807, and first published in the Bologna edition of 1819-21, of which the present edition is a reprint with some few additions.

59. — La divina commedia con commento analitico di GABRIELE ROSSETTI. Vol. i., ii. Londra, *John Murray*. 1826-27. 8°. *Diagrs.* (N.)

Contents:—i., ii. L' inferno. No more was published.

"Vita di Dante." i. xix-xi.

"Disamina del sistema allegorico della Divina commedia." i. 331-405, ii. 349-556.

"Nozioni storiche intorno all' imperadore Arrigo di Lussemburgo." ii. xvii-xviii.

60. — La divina commedia con nuovi argomenti e note [del canonico BORGHI]. 3 vol. Firenze, *P. Borghi e comp.* 1827. 32°. *Port.* (Collezione portatile di classici italiani, xix.-xxi.) Dn. 28.27

Portrait:—"E. Cateni dis. Lasinio figlio inc." Is evidently founded on Morghen's portrait, very much reduced, and inferior.

61. — L' ottimo commento della Divina commedia; testo inedito d' un contemporaneo di Dante citato dagli Accademici della Crusca. [Edited with the text by ALESSANDRO TORRI.] 3 tom. Pisa, *Nic. Capurro*. 1827-29. 8°. *Port.* and plates. Dn. 28.27.2 (T. BPL. 2802.21)

Portrait:—"Stefano Tofanelli delin. Raffaello Morghen inc." Reduced from the large plate in the editions of 1795 and 1804. Also an outline engraving of the Florentine fresco wrongly attributed to Orgagna, representing Dante standing.

62. — La divina commedia: pubblicata da A. BUTTURA. 3 tom. Parigi, *presso Aimé-André*. 1829. 32°. *Port.* and 3 plates. (Biblioteca poetica italiana, i.-iii.)

Dn. 28.29 (BPL. 6779a.15)

"Ristampa dell' edizione parigina del 1820."—Colomb de Batines, i. 171.

Portrait:—"Pamela Dantel sc." A copy of Morghen's engraving reversed.

63. — La divina commedia, postillata da TORQUATO TASSO. 3 tom. Pisa, [*Capurro*] *co' caratteri di F. Didot*. 1830. 4°. *Portrs.* Dn. 28.30

"Postille cavate dai margini di tre edizioni, per cura dell' ab. Rezzi, e pubblicate coll' intero testo di Dante dal prov. Gio. Rosioi."—Lord Vernon, *Serie cronologica*, no. 226.

Portrait:—(Dante) A very close copy of the Tofanelli-Morghen portrait as it appeared in the editions of 1795 and 1804.

64. — La divina commedia con note di PAOLO COSTA, da lui per questa edizione nuovamente riviste ed emendate. Firenze, *tipog. all' insegna di Dante*. 1830. 24°. *Front.* and *vign.* Dn. 28.30.2

With an engraved title-page. "Con questa edizione, fatta interamente su quella intrapresa nel 1827 in Milano da A. Bonifanti si pubblicarono nuove note del Costa, del Bionde e del Betti."—Colomb de Batines, i. 173.

65. — La divina commedia col commento del P. BALDASSARRE LOMBARDI. Vol. i.-iii.;—Prose, rimario, indice. Vol. iv.;—Rime di Dante, precedute dalla sua biografia. Vol. v.;—Le cloghe latine, i trattati del Volgar eloquio e della Monarchia e le epistole. Vol. vi. 6 vol. Firenze, *Leonardo Ciardetti*. 1830-41. 8°. *Port.* and 3 plates.

(i.-iii.) Dn. 28.30.3; (iv.-vi.) Dn. 28.30.4 (T. BPL. *2801.6; *4196.6)

- *The same*. Vol. vi. Firenze. 1841. 8°. Dn. 28.30.5
 Vol. iv.-vi. have also the half-title "Opere minori di Dante, etc." This edition was also published with 112 illustrations from designs by Flaxman.
 "Il testo è copiato dall'edizione padovana del '22 [no. 51]. Si aggiunsero per altro alcune variante tratte dall'edizione d' Udine, 1823 [no. 54]." — Colomb de Batines, i. 175.
Portrait: — With no indication of engraver; a poor copy of Morghen's portrait, reversed.
66. — La divina commedia, con note di PAOLO COSTA. 3 vol. Napoli, *della tipog. del Petrarca*. 1836. '35. 24°. Dn. 28.36
 "Vita." i. vii.-xxxviii.
67. — La divina commedia, con note di PAOLO COSTA, edizione eseguita sull' ultima fiorentina, dal commentatore medesimo rivista ed emendata. [With an appendix.] Monza, *tipog. Corbetta*. 1837. 1.8°. *Port.* 38.46
 "Vita di Dante Alighieri." pp. v.-xvi.
68. — La divina commedia ridotta a miglior lezione coll' aiuto di vari testi a penna da G. B. NICCOLINI, GNO CAPPONI, G. BORGHINI, e FRUTTUOSO BECCHI. 2 vol. Firenze, *Felice Le Monnier e comp.* 1837. 1.8°. *Port.* (N. T. BPL. 280r.3)
 Vol. ii. Prefazione e avvertimenti di Fruttoso Becchi. — Avvertimenti sul testo della Divina commedia.
Portrait: — "Del Bene dis. P. Viviani inc."
69. — La commedia col commento di N. TOMMASEO. [Pubblicata da G. Bernardini.] 3 vol. Venezia, *co' tipi del gondoliere*. 1837. 8°. *Vign.* (BPL. 280o.1)
 "Nitidissima edizione. Ha ricchezza di citazioni che mostrano i fonti a' quali ebbe ricorso il poeta, e che sono specialmente la Bibbia, Aristotile, Virgilio, S. Tommaso." — Gamba, *Serie dei testi di lingua*, p. 133.
70. — La divina commedia col commento del P. BONAVENTURA [Baldassare] LOMBARDI, con le illustrazioni aggiuntevi dagli editori di Padova nel 1822 e con un' appendice novellamente compilata per questa ristampa. [With "Le rime di Francesco Petrarca," etc. 1839. pp. 741-927.] Firenze, *David Passigli*. 1838. 1.8°. 4 plates. Dn. 28.38
 Also with an engraved title-page to each division — Dante, and Petrarch.
71. — Lo inferno della commedia col commento di GUINIFORTO DELLI BARGIOLI tratto da due manoscritti inediti del secolo decimo quinto con introduzione e note dell' avv. G. ZACHERONI. Marsilia, etc., *Mossy*. 1838. 1.8°. *Front., plates, and vign.* (N.)
 But few copies were printed. This copy does not contain the Dedication and Introduction spoken of in Colomb de Batines, i. 187.
72. — La divina commedia col commento del P. POMPEO VENTURI; nuova ed. a miglior lezione ridotta ed arricchita d' inedite postille del dottor GIOVANNI LAMI e di P. J. FRATICELLI. 3 tom. Firenze, *G. Molini*. 1839. 24°. *Port.* and *plates*. Dn. 28.39
 "Della prima e principale allegoria del poema. Discorso di P. Fraticelli." i. x.-xl.
 "Prefazione del P. P. Venturi all' edizione di Lucca del 1732." i. 1-5.
 "Vita di Dante scritta da L. Retino." i. 7-24.
 This edition is not mentioned by Colomb de Batines or by Lord Vernon. It is a reprint, with slight changes, of that published by Formigli in 1837. It reproduces Venturi's Comment, first published in 1732, freed from the many inaccuracies which had disfigured it in earlier editions. See Colomb de Batines, i. 181.

Portrait: — The engraver's name and the source of the engraving are not given, but it is an unmistakable copy of the profile on a medal by Ant. Fabris produced in 1829, and engraved in Missirini's *Delle memorie di Dante in Firenze* [Dn. 535-3].

73. — La divina commedia dichiarata secondo i principii della filosofia per LORENZO MARTINI. 3 vol. in 1. Torino, *Giacinto Marietti*. 1840. 8°. *Port.* Dn. 28.40

Portrait: — A lithograph, apparently copied from the anonymous portrait in the Paduan edition of 1822.

74. — La divina commedia con le note di PAOLO COSTA, e gli argomenti dell' ab. G. Borghi; ed una vita appositamente scritta dal prof. Melchior Missirini. 1^a ed. originale italiana eseguita sotto la direzione dei sign. G. B. NICCOLINI [Nicolini] e G. BEZZUOLI. [Riveduto e ricorretto da P. J. Fraticelli.] 3 vol. Firenze, *Fabris*. 1840-42. 1.8°. *Port.* and 500 vigns. (BPL. 280r.5)

Contents: — i. Della prima e principale allegoria del poema di Dante, discorso di P. Fraticelli. L' inferno. — ii. Il purgatorio. — iii. Il paradiso. Cronologia di avvenimenti connessi alla vita e alla commedia di Dante, etc., scritta da Ugo Foscolo.

The life by Missirini, regarded by Colomb de Batines (i. 190) as vol. i., was published separately without volume number (BPL. 280o.1).

The text follows Lombardi's edition of 1791. The illustrations, which were partly copied from the works of Flaxman, Pinelli, Ademollo, etc., were designed and engraved by Fabris, Balestrieri, Elisa Mariani and others.

75. — La divina commedia, col commento del P. POMPEO VENTURI, con postille d' altri e la vita dell' autore scritta da L. Retino. Edizione arricchita per opera di A. RONNA. Parigi, *Truchy*. 1841. 12°. (T.)

— See no. 215. Die göttliche komödie. Von AUGUST KOPISCH. *Ital. and Germ.* 1842.

76. — La commedia illustrata da UGO FOSCOLO. [Edited by "Un Italiano," i. e. Giuseppe Mazzini.] 4 tom. Londra, *Pietro Rolandi*. 1842-43. 8°. 3 *portrs.*, 6 *plates*, and *fac-sim.* Dn. 28.42

Contents: — i. Discorso sul testo e su le opinioni diverse prevalenti intorno alla storia e alla emendazione critica della Commedia. 1842.

ii. Inferno. 1842.
 iii. Purgatorio. Paradiso. 1843.
 iv. Cronologia di avvenimenti connessi alla vita, e alla Commedia di Dante. Notizie e pareri diversi intorno a forse duecento codici e alla serie delle edizioni della Commedia. Indice de' vocaboli, nomi, avvenimenti storici e allusioni riferiti con dichiarazioni a' versi del testo.

Vol. i. was published in 1825 by Pickering in London, but the edition was not continued, and Foscolo died in 1827. This is published according to his intentions and from material collected by him.

Portraits: — DANTE. "Ritratto all' età di 25 anni, dipinto da Giotto verso il 1290 nella cappella del Podestà a Firenze, scoperto il 21 luglio 1840. Seymour Kirkup dissegno." — DANTE. "H. Robinson." "In età ormai avanzata, copiato su que' che si riguardano come i più autentici, ed inciso in acciaio." It seems to be a copy of the anonymous portrait in the Paduan edition of 1822. — FOSCOLO. "H. Robinson sculp."

See Colomb de Batines, i. 162, 193.
 — Another copy. Dn. 28.42.2
 Margins narrower and plates wanting.

77. — L' inferno secondo il testo del P. Baldassarre Lombardi disposto in ordine grammaticale e corredato di brevi dichiarazioni per uso degli stranieri da LORD VERNON. [Cant. i.-vii.] Firenze, *Piatti*. 1842. 8°. *Port., diagr., and general. table*. Dn. 28.42.3
 "Opinione del Balbo rispetto ai lavori sopra Dante." x.-xiii. — "Vita di Dante estratto dal Boccaccio." xxvii.-

lxxvi. — "Origine dei guelfi e ghibellini in Firenze dal lib. ii. delle storie del Machiavelli." lxxvii.-lxxxii. — "Origine delle fazioni bianca e nera in Toscana." lxxxii.-xci. — "Albero della famiglia di Dante." 2 sheets. — "Cronologia della vita di Dante." xciii.-xcvi. — "Avvenimenti precedenti e contemporanei." xcvi.-civ. — "Imperatori re di Germania e re de' romani." cv.-cvii. — "Papi." cviii.-cix. — "Descrizione dell' inferno secondo Dante, cavata dall' edizione del Zotti." cxii.-cxi. — "Misura dell' inferno secondo Alessandro Vellintello." cxii.
Portrait: — Ritratto dipinto da Giotto, scoperto il 21. luglio 1840. Seymour Kirkup disegno. Cav. Paolo Lasinio inc."

78. — *La divina commedia*. Breslavia, a spese di S. Schletter. 1843. 8°. Dn. 28.43

Each cantica has a separate pagination. Cant. ii. has a title-page with the imprint "Penig, 1804." The whole is probably identical with the 8° edition of 1804, with a simple change of title-page.

79. — *La divina commedia con nuovi argomenti e note di G. BORGHI*. Parigi, Baudry. 1844. 12°. *Port.* and *plate*. Dn. 28.44

"Vita, scritta dall' abate P. A. Scerassi." pp. i.-iv.
Portrait: — A copy of the anonymous portrait in the Paduan edition of 1822.

80. — *La divina commedia col commento di PAOLO COSTA* notabilmente accresciuto. Premessovi alcuni cenni intorno alla vita e alle opere del poeta tratti dalla Storia letteraria del prof. Giuseppe Maffei. [Edited by B. Bianchi.] Firenze, Felice Le Monnier. 1844. 12°. *Front.* Dn. 28.44.2

81. — *I quattro poeti italiani con prefazioni e commenti da PAOLO EMILIANI-GIUDICI*. Firenze, società editrice fiorentina. 1845. 8°. (BPL. 2791.11)

"La divina commedia." pp. 71-305.

82. — *I quattro poeti italiani, Dante, Petrarca, Ariosto, Tasso*. Edizione fatta su quella di A. BUTTURA [pubblicata da Antonio Ronna]. Parigi, Baudry. 1845. 12°. *Portrs.* (Par-naso italiano.) (BPL. 4779.64)

"La divina commedia." pp. 1-138.
Portraits: — A group of the four poets. Dante's head seems to be taken from the anonymous portrait in the Paduan edition of 1822.

83. — *Inferno in versi e in prosa*. [Edited, with Gozzi's Argomenti, by Carpanetti.] Firenze, Felice Le Monnier. 1847. 12°. Dn. 28.47

The prose is given at the foot of the page.

— See no. 138. *Divine comedy: the Inferno*. By J. A. CARLYLE. *Ital.* and *Eng.* 1849.

84. — *La divina commedia*. Venezia, G. Tasso. 1852. 24°. (BPL. 6109a.57)

85. — *La commedia novamente riveduta nel testo, e dichiarata da BRUNONE BIANCHI*. 4^a ed., corredata del Rimario. Ed. stereotipa. Firenze, Felice Le Monnier. 1854. sm. 8°. Dn. 28.54

"Vita di Dante" by L. Bruni Aretino.

86. — *Commedia con ragionamenti e note di NICCOLÒ TOMMASÉO*. Milano, per Giuseppe Reina. 1854. 1. 8°. (N.)
 Biographical and historical introductory essays, pp. 13-60.

— See no. 187. *La divine comédie*. Par J. A. MESNARD. *Ital.* and *French*. 1854-57.

87. — *La divina commedia col commento di G. BIAGIOLI*. 4^a ed. con rami e coll' indice de'

nomi e delle cose notabili per cura del sac. B. G. 3 vol. Napoli, A. Festa, etc. 1855. 12°. 26 plates. (BPL. 2809.8)

The 1st ed. was published in 1818.
 The plates are taken from Flaxman's designs.

— See no. 185. *La divine comédie*. Par H. F. R. DE LAMENNAIS. *Ital.* and *French*. 1855.

88. — *Commento latino [of BENVENUTO DA IMOLA, translated into Italian, with the text of the Divina commedia]*. Imola, tipog. Galeati. 1855-56. 8°.

See Rambaldi, *da Imola*, B. *Commento latino*, etc. (N. BPL. 2802.14)

89. — *La commedia, interpretata da FRANCESCO GREGORETTI*. Venezia, Pietro Naratovich. 1856. sm. 8°. (BPL. 4800.20)

— See nos. 190-192. [*La divine comédie*.] Par LOUIS RATISBONNE. *Ital.* and *French*. 1856-60.

90. — *La divina commedia, illustrata dal conte FRANCESCO TRISSINO col testo originale a riscontro ad utilità e comodo degli studiosi della sublime poesia*. 3 vol. Vicenza, tipog. Paroni. 1857-58. 8°. Dn. 28.57

"Eseguita precisamente sopra quella fiorentina di David Passigli dell' anno 1838."
 The text is given on the left and a running paraphrase and comment on the right.

"È il miglior lavoro di questo genere, condotto con chiarezza e vaghezza di lingua." — Carpelini, p. 5.
 "Idea del poema di Dante." iii. 635-640. "Idea possibilmente precisa del luogo nel quale in ciascuna delle tre cantiche s' incomincia e si compie paritamente tutta l' azione" [from Galileo and Lombardi] iii. 641-655.
 "Indice di tutti i luoghi visitati da Teodoro Hell nel suo viaggio." iii. 656-657.
 "Indice dei nomi propri e delle cose notabili contenute nelle tre cantiche." iii. 658-699.

91. — *Le prime quattro edizioni della Divina commedia letteralmente ristampate per cura di G. G. WARREN, LORD VERNON*. Londra, Tommaso e Guglielmo Boone. 1858. f°. *Fac-sims.* (N. BPL. *2800.4)

The four editions are those of Foligno, 1472, Jesi, 1472, Mantua, 1472, and Naples, 1474. The four texts are printed in the four quarters of each page. The work was edited, with a preface, by Sir Anthony Panizzi.

92. — *L' inferno disposto in ordine grammaticale e corredato di brevi dichiarazioni da G. G. WARREN, LORD VERNON*. 3 vol. Londra, Tommaso e Guglielmo Boone. 1858-65. f°. *Maps, plates, fac-sim., wdets., etc.* Dn. 8.58

Vol. i. "contains the text of the 'Inferno' with a grammatical *ordo*, brief explanations of words, persons, and places, and a series of extremely useful analytical tables of the allegory as expounded by commentators ancient and modern." Also, a "serie cronologica delle edizioni della Div. com. fuo al 1850."

Vol. ii. Documenti. 1862. "In the second volume will be found brought together not a few writings, documents, and tracts, which illustrate the biography and circumstances of the Poet, the history of his time, and of the personages mentioned in the cantica. The greater part of these writings are the productions of various Italian letterati, who, from the friendship they profess for me, and at my request, have kindly furnished me with these works for the embellishment of my own."

Vol. iii. Album. 1865. 112 plates. Engravings representing "portraits, paintings, plans, and above all, historical monuments; which illustrate the history of the 14th cent., the biography of Dante, and the particulars of his poem."

Portraits: — Frontispiece, (photog.) "Drawn from the original (by Giotto) by Seymour Kirkup, the first promoter of the discovery, and traced on the fresco in the palace of the Podestà in Florence before the painting was retouched." — Plate ii. The same, engraved by Lasinio. — Plate iii.

The same, head only. — Plate vi. "Maschera di Dante," front and profile, drawn by Kirkup, engraved by Lasinio. — Plate ix. "Basso rilievo sul sepolcro di Dante a Ravenna." Drawn by Kirkup, engraved by Lasinio.
See Barlow's *On the Vernon Dante*.

93. — Commento di FRANCESCO DA BUTI [with the text of the Divina commedia]. Pisa, *fratelli Nistri*. 1858-62. 8°.

See Buti, F. DI B. DA. Commento, etc. Dn. 28.58 (BPL. *4795.1)

94. — La divina commedia su' comentì di BRUNONE BIANCHI nuovamente illustrata ed esposta e renduta in facile prosa per GIOVANNI CASTROGIOVANNI. Palermo, *ufficio tipog. lo Bianco*. 1858 [1861]. 1. 8°. Dn. 28.58.2

"Cenni intorno alla vita ed alle opere di Dante Alighieri estratti dal Maffei e da altri scrittori." pp. vii.-x.
"L' edizione è poco corretta." — Carpellini, p. 6.

95. — La divina commedia col commento di PIETRO FRATICELLI. Nuova ed. con giunte e correzioni, arricchita de' cenni storici intorno al poeta, del rimario [e] d' un indice. 1 vol. in 3. Firenze, *G. Barbèra*. 1860. 8°. Port. and 3 plates. (Raccolta dantesca. 1.) (N.)

"Cenni storici intorno la vita di Dante Alighieri." ix.-xxiv.
"Della prima e principale allegoria del poema di Dante." xxv.-xlili.
"Rimario della Divina commedia." pp. 112.

Portrait: — "Ritratto dall' amico suo Giotto nella cappella del Potestà in Firenze, scoperto l' anno 1841."

— See nos. 175-180. [La divine comédie] avec les dessins de Gustave Doré. Traduction de P. A. FIORENTINO. Ital. and French. 1861-1872.

— See no. 189. Le purgatoire. Par A. F. OZANAM. Ital. and French. 1862.

96. — La divina commedia ricorretta sopra quattro dei più autorevoli testi a penna da CARLO WITTE. Berlino, *Ridolfo Decker*. 1862. 4°. Photograph. Dn. 28.62 (BPL. *4790.39)

The various readings of the manuscripts and editions consulted are printed on the margins of each page. The Introduction is a thorough critical essay of the text of the D. C.; its history, the authority of MSS. and printed texts &c. &c. Witte's wide and exact scholarship, and his excellent taste and judgment are apparent throughout. His work cannot be superseded. — C. E. N.

Fastened on the first flyleaf is a photograph of a bust of Dante taken from the death-mask.

97. — La divina commedia. Edizione minore fatta sul testo dell' edizione critica di CARLO WITTE. Berlino, *Ridolfo Decker*. 1862. 8°. Dn. 28.62.2

98. — La divina commedia, all' intelligenza di Studio d' un solitario [P. I. LAMARI DI LONGIANO]. 2ª ed. 2 vol. (pag. contin.) Firenze, *tipog. Fioretti*. 1862. sm. 8°. Port. Dn. 28.62.3

"Ha una stampa in legno incisa dal Gozzini. È il ritratto di Dante preso da quello che il Bronzino [Alessandro Allori] dipinse nella Cappella dei Montauto alla SS. Nunziata, ricavato da esso dalla maschera di Dante." — Carpellini, p. 9.
With introductory discourses, and a "Repertorio alfabetico che somministra le cognizioni d' ogni maniera opportune all' intelligenza della D. C.," pp. 731-890.

99. — La divina commedia espota in prosa dal cenne FRANCESCO TRISSINO col testo a riscontro. 2ª ed. dall' espositore riveduta e corredata di note sue e d' altri. 3 vol. Milano, *Gaetano Schiappati*. 1864. 8°. Port. (BPL. 2800.5)

Vol. i. has also a chromo-lithographed title-page. Vol. i. contains "Vita di Dante scritta da Paolo Costa," and "Idea del poema di Dante."

Portrait (colored): — Full-length, seated; a wretched production.

100. — Commento su la Divina commedia pel prof. A. G. DE MARZO [with the text]. Firenze, *Grazzini, Giannini e c.* 1864-82. 4°. See Marzo, A. G. DE. Commento, etc. Dn. 18.64

101. — La divina commedia secondo la lezione di CARLO WITTE. Prima ed. italiana adorna di cento incisioni antiche. 3 vol. in 1. Milano, *G. Daelli e c.* 1864-66, '64. 16°. Fronts. and wdcts. (BIBLIOTECA rara, xli.-xlili.) Dn. 28.64 (BPL. 2799.53; vol. 41-43 of *4760a.50)

The title-page of each vol. is illustrated, and the woodcuts are copied from the edition of 1491 [no. 6].

102. — La divina comedia col commento cattolico di LUIGI BENNASSUTI. 3 vol. Verona, *stabilimento Civelli*. 1864-68. 8°, and atlas of 25 plates. (BPL. 4792.1)

HCL. has Vol. i. Inferno. Dn. 28.64.2
The text was edited by Bartolommeo Sorio. The plates in the BPL. copy have been collated and found to agree with the list given in Ferrazzi's *Manuale dantesco*, vol. 4, pp. 154, 155; see also vol. 2, pp. 490-492, 763.

103. — Il codice cassinese della Divina commedia, per la prima volta letteralmente messo a stampa per cura dei monaci benedettini della badia di Monte Cassino. Monte Cassino. 1865. f°. 6 plates of fac-sims. and port. (N. BPL. *4800.14)

Prolegomena on the history of the manuscript, its palaeography, and the manner in which it has been edited, pp. 1v.-1v. The various readings of nineteen other editions or manuscripts are given at the foot of each page.

The manuscript here published is described by Colomb de Batines (ii. 221); see also a letter from the abate Costanzo, originally published in 1801, and reprinted in the editions of the Divina commedia published in Rome, 1815 (iv. 17-107) and Padova, 1822 (v. 157-268).

Portrait: — A photograph of a painting by Scipione Pulzone da Gaeta preserved at Monte Cassino.

— See no. 145. The divine comedy. By JOHN DAYMAN. Ital. and Eng. 1865.

— See no. 148. The Inferno. By JAMES FORD. Ital. and Eng. 1865.

104. — La divina commedia, ridotta a miglior lezione dagli Accademici della Crusca con le chiose di VINCENZO GIOBERTI. [Ed. da Bruto Fabricatore. Inferno c. i.-iv. 102.] Napoli, *dalla stamperia del Vaglio*. 1865. 8°. pp. (4), 24+-. Dn. 28.65.2

105. — Comedia di Dante degli Allagherii col commento di JACOPO DI GIOVANNI DALLA LANA, bolognese. In onore della città di Bologna dopo studii e raffronti su codici molti nel pc. anno dalla nascita del divino poeta Luciano Scarabelli. Milano, *Carlo Moretti*. [1865.] f°. (N.)

Preface on Jacopo dalla Lana and his comment, and on the proper form of Lana's name, and Dante's name, pp. v.-xlv. — "Intorno al disegno della Comedia; lettera controversa di Dante a Cane della Scala," pp. xlv.-xlviii. — "Al commento fatto da Jacopo de Zone di Fra Filippo dalla Lana alla Divina commedia; proemio dal codice laurenziano Pl. ec. 115," pp. xlix.-l. Indexes to Lana's comment, pp. 505-516.

The text is printed in blue ink down the middle of the page, with the comment on either side, above and below, in smaller type.

106. — *Commedia con ragionamenti e note di NICCOLÒ TOMMASÉO.* 3 vol. Milano, *Francesco Pagnoni.* 1865. f°. *Port.* and 54 *plates.*
Dn. 8.65
The engravings are by Carlo Barbieri, Felice de Maurizio, and Federico Faruffini.
Portrait: — "Eseguito sopra Giotto, Nello Fiorentino, e Pietro Lombardo dal distinto pittore Faruffini Federico."
107. — *La divina commedia, chiarita con note ad uso della gioventù italiana ed illustrata da cento tavole di composizione di Giovanni Flaxman.* Vol. 1, fasc. i. ii. 2 fasc. Milano, *antica ditta Pietro e Giuseppe Vallardi.* 1865. f°. *Front.* and 4 *plates.*
Dn. 28.65
Contents: — Inferno. Cantos i-iv.
108. — *Commento alla Divina Commedia d'anonimo fiorentino del secolo xiv. ora per la prima volta stampato a cura di PIETRO FANFANI.* [With the text.] 3 tom. Bologna, *G. Romagnoli.* 1866-74. 8°. (Collezione di opere inedite o rare dei primi tre secoli della lingua, etc.)
Dn. 28.66 (BPL. 4762a.11)
109. — *Comedia col commento di JACOPO DELLA LANA.* Nuovissima ed. [da] LUCIANO SCARABELLI. 3 vol. Bologna, *G. Romagnoli.* 1866. 8°. (Collezione di opere inedite o rare dei primi tre secoli della lingua, etc.) Dn. 28.66.2
— See no. 139. *Divine comedy: the Inferno.* By J. A. CARLYLE. 2d ed. *Ital.* and *Eng.* 1867.
110. — *La divina commedia. Testo comune colle variazioni dei codici pubblicati da CARLO WITTE.* 1^a ed. americana. Boston, *De Vries, Ibarra & c.* 1867. 8°. *Port.* (BPL. 4800a.24)
Portrait: — By Gustave Doré.
111. — *Commedia con note di GREGORIO DI SIENA.* Inferno. Napoli, *stabil. tipogr. Perrotti.* 1867-70. 8°. *Diagrs.*
Dn. 28.67
112. — *Codice frammentario della Divina commedia, di pertinenza della biblioteca dell'università di Bologna, edito secondo la sua ortografia per opera e cura di LUCIANO SCARABELLI.* Bologna, *tipogr. regia Merlani.* 1869. sm. f°. *Fac-sim.*
Dn. 28.69
"Edizione non venale di 300 esemplari."
113. — *La divina commedia. Arricchita con annotazioni e spiegata da CARLO DI REINHARDT-STÖTTNER.* 2 fasc. in 1 vol. Lipsia, *E. Fleischer.* 1869-70. 16°. (Collezione di scrittori italiani, i., ii.)
Dn. 28.69.2
Contents: — L' inferno.
No more published.
114. — *Esemplare della Divina commedia donato da papa (Benedetto XIV.) Lambertini allo studio di Bologna, edito secondo la sua ortografia, illustrato dai confronti di altri xix. codici danteschi inediti, e fornito di note critiche da LUCIANO SCARABELLI.* 3 vol. Bologna, *G. Romagnoli.* 1870-73. 8°. (Collezione di opere inedite o rare dei primi tre secoli della lingua, etc.)
Dn. 28.70 (BPL. 4762a.21)
115. — *La divina commedia col commento di RAFFAELE ANDREOLI.* Ed. stereotipa. Firenze, *G. Barbèra.* 1870. 8°. (N.)
116. — *La divina commedia. Riveduta nel testo e commentata da G. A. SCARTAZZINI.* 3 vol. Leipzig, *F. A. Brockhaus.* 1874-82. sm. 8°.
Dn. 28.74
117. — *La divina commedia.* Milano, *U. Hoepli.* 1878. 128°. *Port.* (BPL. **2799a.50)
This book is 5½ cm. high, 3¼ cm. wide, and 2 cm. thick, and is said to be the smallest printed book in the world. 1000 copies printed.
— See no. 186. *L' enfer mis en vieux langage français* par E. LITTRÉ. *Ital.* and *Old French.* 1879.
118. — *La divina commedia, illustrata da Gustavo Doré e dichiarata con note tratte dai migliori commenti per cura di EUGENIO CAMERINI.* Ed. economica. Milano, *Edoardo Sonzogno.* 1880. f°. *Port.* and 135 *plates.* Dn. 8.80
Portrait: — By Gustave Doré. It does not seem to be drawn from any one preceding portrait.
— See no. 137. *The purgatory,* by A. J. BUTLER. *Ital.* and *Eng.* 1880.
119. — *La divina commedia. Con note dei più celebri commentatori raccolte dal prof. G. B. FRANCESIA.* 5^a ed. 3 vol. Torino, *tipog. e libreria salesiana.* 1880-81. 16°.
Dn. 28.80 (BPL. 4770a.79)
120. — *Commedia, preceduta dalla vita e da studi preparatori illustrativi, esposta e commentata da ANTONIO LUBIN.* Padova, *L. Penada.* 1881. 1. 8°. *Port.* and 4 *plates.*
Dn. 28.81
"Vita e opere di Dante Allighieri." pp. 7-140. — "Studi preparatori illustrativi." pp. 141-496. — "Tavole sinottiche." pp. 497-520.
121. — *La divina commedia [edited by GUIDO BIAGI].* Firenze, *G. C. Sansoni.* 1883. 64°. (Piccola biblioteca italiana.)
Dn. 28.83
— See no. 146. *Divine comedy: the Purgatorio.* By W. S. DUGDALE. *Ital.* and *Eng.* 1883.
— See no. 131. *De goddelijke komedie door JOAN BOHL.* *Ital.* and *Dutch.* [1884.]
Selections.
— See 235. *Polyanthea [including extracts from Dante in Italian and Latin].* 1517. f°.
122. — [Quotations from the Divina commedia and translations from the version of H. Boyd to accompany Flaxman's compositions.] London, *Longman, Hurst, Rees, and Orme.* 1807. 8°.
See *Flaxman, John. Compositions, etc.* (BPL. *4800.2)
123. — [Parallel passages from the Divina commedia in Italian, German, English, and French, accompanying Flaxman's illustrations.] 3 vol. in 1. Carlsruhe, *Creuzbauer.* [1833-35.] obl. 8°.
See *Flaxman, John. Composizioni, etc.* (BPL. *4230a.11)
124. — *Études sur la langue italienne par HYPOLYTE TOPIN.* [With text, and translation in Alexandrine verse, of Purg. i., x., xii.; Parad. i., ii., vi., xxxiii.] Florence, *typog. gabilienne de M. Cellini & c., etc.* 1855. 8°.
See *Topin, H. Études, etc.* Dn. 79.2

125. — *Liriche e parte del Paradiso come sono nel codice palatino CLXXX. autografo di FRANCESCO PETRARCA.* [Publicati con uno discorso da Francesco Palermo.] (*In PALERMO, Francesco, editor.* I manoscritti palatini di Firenze. Firenze, 1860, ii., 597-880.) *Port.*, *fac-sim.*, 2 plates, and *diagr.*

(BPL. *2200.13.2)

The portions of the Paradiso given are canto x. v. 31 to end, canto xi.-xxx., xxxi. the first 15 verses, xxxii. from v. 91 to end, xxxiii.

Portrait : — "Ritratto maraviglioso, a penna e acquarello eseguito nel secolo xiv., e che si ritrova nel codice 312 della Biblioteca Palatina"; supposed to be the work of Giotto, representing the poet at a more advanced age than in the painting of the Podestà.

126. — Selections from the Inferno with introduction and notes by H. B. COTTERILL. Oxford, Clarendon press. 1874. 16°. Dn. 34.1

Contents : — Table of dates. — Historical sketch. — Dante's life. — Origins of the Italian language. — Rise of Italian poetry. — Metre and versification. — The poem: its sources and meaning. — Dates of the cantiche. — Dell' Inferno. — Notes. — Topography of the Inferno. — The days and hours of the descent. — Unusual forms of certain verbs. — Index.

127. — *Pensieri, massime, e giudizi estratti dalla Divina commedia e ordinati per comodo degli studiosi da LORENZO BARTOLUCCI.* Città di Castello, S. Lapi. 1884. 16°. Dn. 34.2

TRANSLATIONS.*

(Alphabetically by language and translator.)

Catalan.

128. — *Fragments inédits de la traduction [catalane] de la Divine comédie d' ANDRÉU FERRER.* [1429.] (*In CAMBOULIU, F. R.* Essai sur l'histoire de la littérature catalane. Paris, 1858, 8°, pp. 181-187.) (BPL. 3093.16)

Contents : — Enfer. ch. i. [l. 1.-60]; Épisode d' Ugolin.

129. — *La comedia, traslatada de rims vulgars toscans en rims vulgars catalans per N' ANDRÉU FERRER.* (Siglo xv.) Dala a luz, acompañada de ilustraciones crítico-literarias, D. Cayetano Vidal y Valenciano. Tom. i. Barcelona, Alvaro Verdaguer. 1878. 16°.

Dn. 120.1 (BPL. **D. 242.21)

Contents : — i. El poema.

Danish.

130. — *Gnuddommelige komedie, oversat af C. K. F. MOLBECH.* 2^{den} udgave. 4 deel. in 2 vol. Kjøbenhavn, Thieles bogtrykkeri. 1865-66. 12°. *Port.* Dn. 110.1

i. Inledning. 1865. — ii. Helvede. 1865. — iii. Skærildnen. 1866. — iv. Paradiset. 1866.

Portrait : — "Efter en maske tagen over hans lig i Ravenna, 1321. Phot. af J. Wulff." This is apparently a copy of the medallion formerly in the possession of the Marquis Torrigiani, and supposed to have been copied directly from the mask.

* The following editions contain also the Italian text: — nos. 131, 137, 138, 139, 145, 146, 148, 175-180, 185, 186, 187, 188, 189, 190-192, 193, 195, 215, 233, 234.

The following editions contain parts only of the Divina commedia: — *Inferno*, English, 136, 138, 139, 144, 147, 148, 155, 158, 162, 163, 164, 165, 166; French, 184, 186, 188, 193, 195; German, 199, 201, 203, 207, 208, 222; Italian dialects, 228, 230; Latin, 234.

Purgatorio, English, 137, 146; French, 180; German, 200. *Paradiso*, Dutch, 131; Italian dialects, 231.

Smaller portions and Selections, Catalan, 128; English, 135, 153, 154, 156, 157, 159; French, 196, 197, 198; German, 204, 218, 225; Italian dialects, 232; Latin, 235, 237, 238.

Dutch.

131. — *De goddelijke komedie in nederlandsche terzinen vertaald met verklaringen en geschiedkundige aantekeningen nopens den dichter door JOAN BOHL.* *Dutch and Ital.* 3^e lied. Amsterdam, Brinkman & Van der Meulen. [1884.] 8°. *Fronl.* Dn. 111.1

Contents : — Het paradijs.

132. — *Divina commedia.* Metrische vertaling, voorzien van ophelderingen en afbeeldingen. Door A. S. KOK. 3 deel. in 2. Haarlem, A. C. Kruseman. 1863-64. 12°. *Port.* and *plans.* Dn. 111.2

i. De hel. 1863. — ii. De louteringsberg. 1864. — iii. Het paradijs. — Dante Alighieri, zijn tijd en zijn werken. 1864.

Portrait : — "D. J. Sluyter sculps." Apparently founded on the anonymous portrait of the Paduan edition of 1822, with which it corresponds in the somewhat peculiar character of the expression.

133. — *De goddelijke comedie.* Met schets van den inhoud, verklaring en aantekeningen, door U. W. THODEN v. VELZEN. Naar het origineel bewerkt. 3 vol. Leeuwarden, A. Jongbloed. 1874. 12°. Dn. 111.3

English.

134. — *The Divina commedia.* Translated into English verse, with preliminary essays, notes, and illustrations, by REV. HENRY BOYD. 3 vol. London, Cadell and Davies. 1802. 8°. *Port.* Dn. 36.1 (BPL. **G. 16.59)

Essays : — A comparative view of the Inferno with some other poems. — Historical essay on the state of affairs in the 13th and 14th centuries. — Life of Dante from Leonardo Bruni. — Preliminary essay on the Purgatorio. — Preliminary essay on the Paradiso.

Portrait : — "T. Stothard, R. A. del. R. H. Cromek sc."

135. — [Quotations from the version of HENRY BOYD to accompany Flaxman's compositions.] London, Longman, Hurst, Rees and Orme. 1807. obl. 8°.

See Flaxman, John. Compositions, etc. (BPL. *4800.2)

136. — *Divine comedy.* The first part, Hell, translated in the metre of the original, with notes, by THOMAS BROOKSBANK. London, J. W. Parker. 1854. 16°. Dn. 36.2

137. — *The Purgatory;* edited with [prose] translation and notes by A. J. BUTLER. *Ital.* and *Eng.* London, Macmillan and co. 1880. 8°. (N. BPL. 2798.55)

"It is at the production of a 'crib' pure and simple that I have aimed." — *Preface.*

"Appendix A. (Note to canto xxvii.) The dreams of cantos ix., xix., and xxvii." pp. 422-426.

"App. B. On the allegory of cantos xxix.-xxxiii." pp. 427-432.

"Glossary." pp. 433-458.

138. — *Divine comedy: the Inferno.* A literal prose translation, with the text of the original collated from the best editions, and explanatory notes. By J. A. CARLYLE. London, Chapman and Hall. 1849. 12°. *Port.* (N. BPL. 2800.21; 6098.51)

139. — *The same.* 2d ed. London, Chapman and Hall. 1867. 8°. *Port.* Dn. 37.1

"Manuscripts and editions. — Comments and translations." pp. xiii.-xxxviii.

Portrait : — "Engraved by R. Young." A delicately engraved, reduced copy of Morghen's portrait.

140. — The vision; or, Hell, Purgatory, and Paradise. Translated by H. F. CARY. 2d ed. corrected. With the life of Dante, additional notes and an index. 3 vol. London, *Taylor and Hessey*. 1819. 8°. Dn. 37.2
141. — *The same*. 3d ed. 3 vol. London, *John Taylor*. 1831. 16°. Dn. 37.2.2
In this 3d edition the notes are collected at the end of each volume instead of being placed at the foot of each page as in earlier editions.
142. — *The same*. Illus. with 12 engravings, from designs by John Flaxman. From the last corrected London ed. New York, *Appleton*. 1845. 16°. *Port.* and *plates*. (BPL. 6099.59)
Portrait:—By Giotto.
143. — Divine comedy. Translated in the original ternary rhyme by C. B. CAYLEY. 4 vol. London, *Longman, Brown, Green, and Longmans*. 1851-55. 16°. Dn. 37.3 (BPL. 4800.23)
i. The vision of hell. 1851.—ii. The purgatory. 1853.—iii. The paradise. 1854.—iv. Notes. 1855.
144. — The Inferno, translated in the terza rima of the original, with notes and appendix, by JOHN DAYMAN. London, *W. E. Painter*. 1843. 12°. Dn. 38.1
145. — The divine comedy. Translated in terza rima by JOHN DAYMAN. *Ital. and Eng.* London, *Longmans*. 1865. 8°. (BPL. 4790.38)
146. — Divine comedy: the Purgatorio. A prose translation by the late W. S. DUGDALE, with the text as edited by Brunone Bianchi, and with explanatory notes. London, *George Bell & sons*. 1883. sm. 8° (Bohn's collegiate series.) Dn. 38.2 (BPL. 2798.59)
"Undertaken in the hope that it might serve as a companion volume to the translation of the Inferno by Dr. John Carlyle."
147. — The Inferno. Translated into English verse, with notes, by E. R. ELLANY. Cantos i.-x. London, *Bickers and son*. 1874. 8° pp. (4), viii., 75. Dn. 39.1
148. — The Inferno translated in the metre of the original by JAMES FORD. *Ital. and Eng.* London, *Smith, Elder and co*. 1865. sm. 8° *Port.* Dn. 40.1 (BPL. 4790.57; 2798.50)
Portrait:—"An exact fac-simile of the engraving prefixed to the rare and beautiful Giolito edition of the Commedia (Venice, 1555). The resemblance it bears to Giotto's famous fresco is very striking."—*Preface*, p. xvi.
149. — The divine comedy. Translated by H. W. LONGFELLOW. [With notes and illustrations.] 3 vol. Boston, *Ticknor and Fields*. 1867. 4°. Dn. 46.1; 38.32 (BPL. *4790.3)
Illustrations, being extracts from the writings of Voltaire, Rivarol, A. de Lamartine, Edgar Quinet, Ozanam, Lamennais, Labitte, Stehelin. iii. 387-424.
150. — *The same*. 3 vol. London, *G. Routledge*. 1867. 8°. (BPL. 4800.15)
151. — *The same*. Boston, *J. R. Osgood & co*. 1871. 8°. Dn. 46.1.3 (BPL. 4796.3; 4794.3)
** Also a paraphrase of part of canto xxi. of the Paradiso, signed L., from the *Boston daily advertiser*, and a translation of cantos xxiii., xxiv., and xxv. from the *Atlantic monthly* of Jan., 1864. Dn. 46.1.4
152. — The divine comedy; translated verse for verse from the original into terza rima, by J. I. MINCHIN. [With introduction and notes.] London, *Longmans, Green, and co*. 1885. 8°. Dn. 47.1 (BPL. 2798.60)
"The obligations of Dante to Virgil." pp. lvii.-lxxvi.
153. — The first ten cantos of the Inferno. Newly translated into English verse [by T. W. PARSONS]. Boston, *William D. Ticknor*. 1843. 8°. *Port.* pp. 83. 38.49; 38.128; Dn. 50.1.3 (BPL. 2802.17)
Portrait:—Profile in outline of a bust. "D. C. Johnson sc."
154. — Seventeen cantos of the Inferno. [Translated by T. W. PARSONS.] Boston, *John Wilson and son*. 1865. 4°. Dn. 50.1.6 (BPL. 4795.18)
155. — The first canticle, Inferno, of the Divine comedy. Translated by T. W. PARSONS. Boston, *De Vries, Ibarra, and co*. 1867. 4°. *Port.* and 75 *plates*. 38.48; Dn. 50.1.2 (BPL. *4790.49; 4790.50)
The portrait and illustrations are reduced copies of Doré's designs. They are wanting in one copy [38.48].
156. — The antepurgatorio [cantos i.-ix.]. Translated by T. W. PARSONS. London, *Hatchards*. 1876. 4°. Dn. 50.1.7
** Also, parts of canto xxvi. of the Inferno, giving the story of Ulysses, from the *Galaxy* of Aug., 1866, with corrections in the translator's hand [Dn. 50.1.9]; canto xxi. of the Purgatorio, from the *Catholic world* of Dec., 1881 [Dn. 50.1.8]; and proof-sheets of cantos xx. and xxx. of the Purgatorio, accompanied by autograph letters of the translator [Dn. 50.1.8].
157. — Hell. Cantos i. to x. A literal metrical translation; with notes. By J. C. PEABODY. Boston, *Ticknor and Fields*. 1857. 12°. pp. xci. [87]. Dn. 50.4
A line-for-line, literal translation in blank verse.
158. — The divine comedy. Inferno. Translated [in "terza-rima"] by WARNURTON PIKE. London, *C. Kegan Paul & co*. 1881. 8°. Dn. 50.2 (BPL. 2798.56)
159. — The Divina commedia. Samples of a new translation by E. H. PLUMPTRE. London, etc., *Cassell, Petter, Galpin & co*. 1883. 12°. pp. 24. Dn. 50.3
Canto i.-iv.; v. (Francesca di Rimini); xxxiii. (Ugolino).
160. — The divine comedy; or, The Inferno, Purgatory, and Paradise. Rendered into English by FREDERICK POLLOCK. London, *Chapman and Hall*. 1854. 8°. *Front., vign.* and *wdcts.* (N.)
"Notice of Dante from Giovanni Villani, Florentine chronicles, book ix. chap. 136," pp. xi.-xiv.
161. — Divina commedia. Translated into English, in the metre and triple rhyme of the original. With notes. By Mrs. [C. H.] RAMSAY. 3 vol. London, *Tinsley brothers*. 1862-63. 16°. Dn. 52.1
162. — The comedy. Part I. The Hell. Translated into blank verse by W. M. ROSSERTI, with introductions and notes. London, etc., *Macmillan and co*. 1865. 16°. Dn. 52.2 (BPL. 4790.55)
"The aim of this translation may be summed up in one word—literality."—*Preface*.

163. — The divine comedy. A translation by J. R. SIBBALD. [Vol. i. The Inferno.] Edinburgh, *David Douglas*. 1884. 8°. *Port.* Dn. 53.1 (BPL. 2792.54)

With a special title-page. "Florence and Dante." pp. xvii.-cix. "Giotto's portrait of Dante." pp. cx.-cxix.

Portrait: — Giotto's portrait, from the photograph of Seymour Kirkup's sketch given in the third volume of Lord Vernon's edition of the Inferno.

164. — The trilogy, or Dante's three visions. — Inferno, or The vision of hell: translated into English, in the metre and triple rhyme of the original; with notes and illustrations. By J. W. THOMAS. London, *H. G. Bohn*. 1859. 8°. *Front.* and *vign.* Dn. 54.1

"A sketch of the life and times of Dante." pp. xxiv.-xl. "On the religious opinions of Dante." pp. xli.-xlvii. "The time of Dante's vision." pp. xlviii.-l.

165. — A free translation, in verse, of the "Inferno," with a preliminary discourse and notes. By BRUCE WHYTE. London, *Wright and co.*, etc. 1859. 8°. Dn. 57.1

166. — Divina commedia. The Inferno, translated [in blank verse] by W. P. WILKIE. Edinburgh, *Edmonston and Douglas*. 1862. 16°. Dn. 57.2 (BPL. 4800.22)

167. — Dante, translated into English verse by J. C. WRIGHT. 3d ed. London, *Bohn*. 1855. sm. 8°. *Port.* and 34 *engrs.* (BPL. **G. 206.9)

168. — *The same*. 4th ed. London, *Bohn*. 1861. sm. 8°. *Port.* and 34 *engrs.* (BPL. 2800.22)

The engravings are after designs by Flaxman. Each vol. has also an engraved title-page bearing the date, 1854.

Portrait: — A copy of Morghen's, reduced.

French.

169. — La comédie de Dante, traduite en vers selon la lettre, et commentée selon l'esprit, suivie de la Clef du langage symbolique des fidèles d'amour par E. AROUX. 2 tom. (paged contin.). Paris, *héritiers Jules Renouard*. 1856. 8°. Dn. 60.1

"L'hérésie de Dante démontrée par Francesca de Rimini. Preuves supplémentaires." ii. 1250-1300.

"Arrêté de compte avec la critique." ii. 1301-1327.

"Appendice." ii. 1329-1341.

"Clef de la Comédie de Dante." pp. 33.

170. — La divine comédie, traduite en français par ARTAUD DE MONTOR. 3^e éd. Paris, *F. Didot frères*. 1849. 12°. Dn. 60.2
A prose translation, first published in 1811-13.

171. — Œuvres. — La divine comédie, traduction de A. BRIZEUX. — La vie nouvelle, traduction de E. J. DELÉCLUZE; nouvelles éditions revues, corrigées et annotées par les traducteurs. Accompagnées de notes et commentaires et d'une Étude sur la Divine comédie par C. Labitte. Paris, *Charpentier*. 1853. 12°. Dn. 61.1 (BPL. 2809.50)

Prose translations.

172. — Œuvres. La divine comédie — l'enfer, le purgatoire, le paradis — traduction nouvelle, précédée d'une introduction contenant la vie de Dante et une clef générale du poème par SÉBASTIEN RHÉAL [GAYET DE CESENA]. Avec

des notes d'après les meilleurs commentaires par Louis Barré. Illustrations de Antoine Étex. Paris, *J. Bryainé*. 1854. 1. 8°. Dn. 62.1
"Dante, sa vie, son époque et ses ouvrages," pp. 5-19.

173. — La divine comédie, contenant la description de l'enfer, du purgatoire et du paradis. [Translated into prose by COLBERT COMTE D'ESTOUTEVILLE.] 3 tom. in 1. Paris, chez *Sallior, successeur de Didot jeune*. 1796. 8°. Dn. 64.1

"È tentata inesatissima." — Colomb de Batines, i. 253.

174. — La divine comédie, traduction nouvelle [prose] accompagnée de notes par P. A. FIORENTINO. 6^e éd. Paris, *L. Hachette et cie*. 1858. 18°. Dn. 65.1

175. — L'enfer; avec les dessins de Gustave Doré. Traduction française de PIER-ANGELO FIORENTINO, accompagnée du texte italien. [With notes.] Paris, *Hachette et cie*. 1861. f°. *Port.* and 75 *plates.* (BPL. *2800.3)

176. — *The same*. Paris, *Hachette et cie*. 1862. f°. *Port.* and 75 *plates.* 38 *Case*
Portrait: — "G. Doré, 1860. Panemaker sc." 12 x 9½ in.

177. — Le purgatoire; avec les dessins de Gustave Doré. Traduction française de PIER-ANGELO FIORENTINO, accompagnée du texte italien. [With notes.] Paris, *Hachette et cie*. 1868. f°. 42 *plates.* (BPL. **4790.15)

178. — *The same*. Paris, *Hachette et cie*. 1872. f°. 42 *plates.* 38 *Case*

179. — Le paradis; avec les dessins de Gustave Doré. Traduction française de PIER-ANGELO FIORENTINO, accompagnée du texte italien. [With notes.] Paris, *Hachette et cie*. 1868. f°. 18 *plates.* (BPL. **4790.15)

180. — *The same*. Paris, *Hachette et cie*. 1872. f°. 18 *plates.* 38 *Case*

181. — Dante traduit en vers, par stances correspondantes aux tercets textuels, sur un texte nouveau quant au choix des variantes et au mode de ponctuation; dédié au roi par J. A. DE GOURBILLON. L'enfer. Paris, *Auguste Auffray*. 1831. 8°. Dn. 66.2
No mere was published.

182. — La comédie de Dante, de l'enfer, du purgatoire & paradis, mise en ryme française et commentée par M. B. GRANGIER. 3 tom. À Paris, pour *L. Drobet*. 1596. 24°. *Port.* of *Henry IV*. Dn. 66.1

183. — *The same*. [Tom. i.] À Paris, chez *Jehan Gesselin*. 1597. 24°. Dn. 66.1.2
Contents: — L'enfer, ov premier cantique de la Comédie de Dante.

"Prima traduzione francese a stampa, dedicata al re Enrico IV., poco stimata, ma ricercata moltissimo." — Colomb de Batines, i. 250.

The title-page is engraved by Thomas de Leu and contains a medalion of Dante.

Identical, except as to the imprint of the title-page, with the last. Colomb de Batines describes this edition only and doubts the existence of the other. The portrait of Henry IV. is wanting.

184. — L'enfer. Traduit en vers français [par] AMÉDÉE JUBERT. Paris, *Berger-Levrault & cie*. 1874. 16°. Dn. 69.1

185. — La divine comédie. [A prose translation.] Précédée d'une introduction sur la vie, les doctrines et les œuvres du Dante. *Ital. and Fr.* 3 vol. *Port.* and 3 plates. (In LAMENNAIS, (H.) F. (R. DE), l'abbé. Œuvres posthumes. Paris, *Paulin et LeChevalier*. 1855. 8°) Dn. 71.1 (BPL. 2676.3)

Portrait: — A woodcut, artist's name not given, but copied from Morghen's engraving.

186. — L'enfer mis en vieux langage français et en vers, accompagné du texte italien et contenant des notes et un glossaire par E. LITTRÉ. Paris, *Hachette et cie.* 1879. 16° (BPL. 2798.52)

187. — La divine comédie. Traduction nouvelle [prose] par [J. A.] MESNARD. *Ital. and Fr.* 3 vol. Paris, *Amyot*. 1854-57. 8° Dn. 72.2

Italian text on the left, French prose translation on the right. With notes by Léonce Mesnard.

188. — La divine comédie, l'enfer; traduction française [prose], accompagnée du texte, de notes historiques, critiques, & de la vie du poète. Par MOUTONNET DE CLAIRFONS. Florence, etc., *Le Clerc, Le Boucher*. 1776. 8° Dn. 72.1

189. — Le purgatoire: traduction [prose] et commentaire, avec texte en regard par A. F. OZANAM. (In OZANAM, A. F. Œuvres complètes, 2^e éd., 1862, 8°, ix.) 10562.11; Dn. 74.1

190. — L'enfer, traduit en vers, texte en regard, par LOUIS RATISBONNE. 2^e éd. 2 tom. Paris, *Michel Lévy frères*. 1859. 18° Dn. 77.1

191. — Le purgatoire, traduit en vers par L. RATISBONNE. *Ital. and Fr.* 2 tom. Paris, *Michel Lévy frères*. 1856. 18° Dn. 77.1.2

192. — Le paradis, traduit en vers par L. RATISBONNE. *Ital. and Fr.* 2 tom. Paris, *Michel Lévy frères*. 1860. 18° Dn. 77.1.3

193. — L'enfer, traduction nouvelle [par ANTOINE RIVAROLI, dit COMTE DE RIVAROL]. *Ital. and Fr.* 2 pt. Londres, etc., *P. Fr. Didot le jeune, etc.* 1785. 8° Dn. 77.2

A prose translation.

194. — La divine comédie. Traduction nouvelle [prose] accompagnée de notes et précédée d'un résumé historique et littéraire sur les temps antérieurs au poème et d'une notice sur Dante et sur ses écrits par VICTOR DE SAINT-MAURIS. 2 tom. Paris, *Amyot*. 1853. 8° Dn. 78.1

i. Résumé historique et littéraire. Dante et ses écrits. L'enfer. — ii. Le purgatoire. Le paradis.

195. — L'enfer, traduit en français [prose], accompagné de notes explicatives, raisonnées, et historiques, suivies de remarques générales sur la vie de Dante, et sur les factions des Guelfes et des Gibelins. Par J. C. TARVER. *Ital. and Fr.* 2 tom. Londres, *C. Knight*, etc. 1824. sm. 8° Dn. 79.1

i. Text and translation.

ii. Notes, etc.

196. — Études sur la langue italienne par HIPPOLYTE TOPIN. [With text, and translation in

Alexandrine verse, of Purg. i., x., xii.; -Parad. i., ii., vi., xxxiii.] Florence, *typog. gabliénienne de M. Cellini et c.*, etc. 1855. 8°

See Topin, H. Études, etc. Dn. 79.2

197. — La divine comédie. 1^{er} chant de l'Enfer; 3^e, 10^e, 24-26^e du Paradis, traduits en vers français avec notes par HIPPOLYTE TOPIN. Catane, *typog. de l'hospice royal de bienfaisance*. 1857. 8° pp. 36. Dn. 79.2.2

198. — La divine comédie. 11^e, 12^e, 23^e chants du Paradis, traduits en vers français, faisant suite aux chants précédemment publiés par HIPPOLYTE TOPIN. Florence, *typog. gabliénienne de M. Cellini et c.*, etc. 1857. 8° pp. 28. Dn. 79.2.2

German.

199. — Von der hölle: ans dem italiänischen übersetzt und mit anmerkungen begleitet von L. BACHENSCHWANZ. 2^e aufl. Leipzig, *auf kosten des uebersetzers*. 1767. 8° *Port.* Dn. 86.1

200. — Von dem fegfeuer. Ans dem italiänischen übersetzt und mit anmerkungen begleitet von L. BACHENSCHWANZ. Leipzig, *auf kosten des uebersetzers*. 1768. 8° Dn. 86.1

"Prima traduzione tedesca di tutta intiera la Divina comedia. La traduzione è in prosa, poco fedele e senza gusto." — Scartazzini, *Dante in Germania*, ii. 194.
Portrait: — "Ex pinacoteca comitis Danielis Lisca, patricii veronensis, pictus quondam a Bernardino India celebri pictore. J. M. Stock fecit."

201. — Göttliche comödie; 1^o abth. Neu metrisch übertragen mit erläuterungen von R. BARON. Oppeln, *A. Reisewitz*. 1870. 8° Dn. 86.2

Contents: — Die hölle. No more published.

202. — Die göttliche komödie. Uebersetzt und erläutert von L. G. BLANC. Halle, *buchh. d. waisenhauses*. 1864. 8° *Port.* Dn. 86.3

In blank iambic verse.

Portrait: — "Julius Thaeter sculp." This shows a striking resemblance to his engraving of the portrait attributed to Masaccio, published in the Jahrbuch d. Dante gesellschaft, vol. 2.

203. — Die göttliche komödie. Für das deutsche volk bearbeitet von JULIUS BRAUN. 1^{er} bd. Berlin, *Th. Chr. Fr. Enslin (Adolph Enslin)*. 1863. 8° Dn. 86.4

Contents: — Der dichter und seine zeit. — Die hölle.

A metrical rhymed translation. No more published.

204. — Aus Dante. Probe einer neuen uebersetzung von ADOLF DOERR. [Inferno. vi. 100-130; xxxiii. 1-88. Leipzig. 1865.] 1.8° pp. (3). Dn. 88.1

Deutsches museum, 25. mai, 1865, pp. 747-749.

205. — Göttliche komödie. In iamben übertragen von KARL EITNER. 3 theile in 1 vol. Hildburghausen, *verlag des bibliogr. instituts*. 1865. sm. 8° (Bibliothek ausländischer klassiker, 8-10.) Dn. 89.1

"Dante's leben und werke." pp. v.-xxxii.

206. — Göttliche komödie. In deutsche prosa übertragen, mit inhaltsangabe und erläuterungen versehen, von K. VON ENK. 2^e verbesserte aufl. 3 theil. in 1 vol. Wien, *Wilhelm Braumüller*. 1877. 16° Dn. 89.2

207. — Dante Alighieri's Hölle. Genau nach dem vermasse des originals in deutsche reime übertragen und mit anmerkungen versehen von JULIUS FRANCKE. Leipzig, *Breitkopf u. Härtel*. 1883. 8°. *Diagrs.* Dn. 90.1
208. — Göttliche komödie in's deutsche übertragen und historisch, ästhetisch und vornehmlich theologisch erläutert von KARL GRAUL. 1^{er} theil. Die hölle. Leipzig, *C. F. Dörffling*. 1843. 8°. Dn. 91.1
No more published.
209. — Die göttliche komödie oder Wallfahrt durch die drei geister-reiche, hölle, fegfeuer und paradies, frei übersetzt und mit anmerkungen versehen von J. F. HEIGELIN. 3 theile. Blaubeuren, *F. M. Mangold*, etc. 1836-37. 8°. *Port.* and 6 *plates*. Dn. 92.1
The plates are copies of Flaxman's outlines.
Portrait: — "Nach dem leben gemahlt von Bernardino India. A. Zschokke sculps."
210. — Göttliche comödie. Zur jubelfeier des dichters metrisch übersetzt von JOS[EPH] VON HOFINGER. Bd. i., ii. 2 bde. Wien, *W. Braumüller*. 1865. sm. 8°. Dn. 92.2
i. Die hölle. — ii. Das purgatorium.
211. — Göttliche comédie. Metrisch übertragen und mit kritischen und historischen erläuterungen versehen von PHILALETHES [JOHN, KING OF SAXONY]. 3 vol. Dresden, etc., *Arnold*. 1849. 4°. *Fronts.*, *maps*, *plates* and *plans*. (N.)
Each vol. has a separate, engraved title-page.
Vol. i. and ii. are "2^e vermehrte anlage. 2^e ausgabe."
212. — *The same*. Neue, durchgesehene und berichtigte ausgabe. 3 vol. Leipzig, *B. G. Teubner*. 1865-66. 8°. *Port.*, *maps* and *plans*. (BPL. 4790.26)
213. — *The same*. 2^{er} unveränderter abdruck der berichtigten ausg. von 1865-66. 3 vol. Leipzig, *B. G. Teubner*. 1871. 8°. *Port.*, *maps* and *plans*. Dn. 94.1
Portrait: — "Gemalt von Giotto." Gest. v. Weger, Leipzig."
214. — Die göttliche komödie; übersetzt und erklärt von K. L. KANNEGIESSER. 4^{te} sehr veränderte aufl. 3 theile in 1 vol. Leipzig, *F. A. Brockhaus*. 1843. 12°. *Port.*, *map* and 3 *diagrs.* (Bibliothek der classiker des auslands, 23-25.) Dn. 95.1
In ternary rhyme.
Portrait: — A profile from the mask. "Gez. von Sievert, gest. von Rosmäler."
215. — Die göttliche komödie. Metrische uebersetzung nebst beigedrucktem originaltexte, mit erläuterungen, abhandlungen und register. Von AUGUST KOPISCH. Berlin, *Enslin'sche buchh.* 1842 [1837-42]. 1. 8°. *Port.* and 2 *plans*. Dn. 95.2
"Dante's leben." pp. 419-467.
"Ueber die Göttliche komödie." pp. 467-498.
Portrait: — A copper-plate engraving copied from Raffael Morghen's portrait.
216. — Die göttliche komödie. Metrische übersetzung mit erläuterungen, abhandlungen
- und register. Von AUGUST KOPISCH. 2^{te} verbesserte ausg. Berlin, *J. Guttenberg*. 1862. 8°. *Port.* and *plans*. Dn. 95.2.2
"Dante's leben." pp. 480-567.
"Ueber die Göttliche komödie." pp. 567-621.
Portrait: — The same plate as in the last.
217. — Göttliche komödie. Uebersetzung, kommentar und abhandlungen über zeitalter, leben und schriften Dante's. Von AUGUST KOPISCH. 3^e aufl., durchaus revidirt, berichtigt und ergänzt von Theodor Paur. Berlin, etc., *verlag von J. Guttenberg (D. Collin)*. 1882. 8°. *Portrs.* Dn. 95.2.3
"Bibliographische einleitung." pp. 557-561. "Dante's leben." pp. 562-651. "Ueber die Göttliche komödie." pp. 652-713.
Portraits: — Helotype of the bronze bust in the museo borbonico in Naples. — Helotype of Giotto's fresco, and of a bronze medal of the latter half of the 15th century.
218. — Die zwei ersten gesänge von Dante's Hölle. Uebersetzt und besprochen von FRIEDRICH NOTTER. Stuttgart, etc., *August Schaber*. 1869. 8°. Dn. 98.1
219. — Göttliche komödie. Uebersetzt und erläutert von KARL STRECKFUSS. 3^e ausg. letzter hand. 3^e aufl. Braunschweig, *C. A. Schwetschke und sohn*. 1853. 1. 8°. Dn. 103.1
In triple rhyme.
220. — *The same*. Mit berichtigter uebertragung und völlig umgearbeiteter erklärng neu herausg. von Dr. Rudolf Pfeiderer. Leipzig, *P. Reclam jun.* [1876.] 16°. (Universalbibliothek. 796-800.) (BPL. no. 4 in 4907.50.84)
221. — *The same*. Neu bearbeitet und mit einer historisch-biographischen einleitung versehen von Otto Roquette. 2 vol. Stuttgart, *J. G. Cotta*. [1882.] 16°. *Portr.* (BPL. 2798.58)
Portrait: — "Nach dem freskobilde im palazzo del Bargello in Florenz."
222. — Die komödie. Uebersetzt und mit begleitendem commentar herausgegeben von ALEXANDER TANNER. 1^e, 2^e lief. München, *E. A. Fleischmann's buchh.* 1865. sm. 8°. Dn. 104.1
Contents: — i., ii. Die hölle.
Translated in triplets.
223. — Göttliche komödie; uebersetzt von KARL WITTE. Berlin, *R. L. von Decker*. 1865. 1. 8°. *Port.* (N. BPL. 4790.25)
224. — *The same*. Berlin, *R. L. von Decker*. 1865. 32°. *Port.* (BPL. 4800.34)
In blank verse, with notes, and an introduction of 33 pages.
Portrait: — A photograph from a very carefully made drawing "nach Raphael."
225. — Der fünfte gesang der Hölle in 22 uebersetzungen seit 1763 bis 1865. Zusammengestellt von REINHOLD KÖHLER. Weimar, *Hermann Böhlau*. 1865. 8°. (Dante's Göttliche komödie und ihre deutschen uebersetzungen.) Dn. 109.1 (BPL. 4800.33)

Greek.

226. — Inferno, translated into Greek verse [with notes] by MUSURUS PASHA. London, etc., *Williams and Norgate*. 1882. 8°.

Dn. 112.1 (BPL. 2792.51)

Also with a title-page in Greek.

227. — Purgatorio, translated into Greek verse [with notes] by MUSURUS PASHA. London, etc., *Williams and Norgate*. 1884. 8°.

Dn. 112.1.2

Also with a title-page in Greek.

Italian Dialects.

228. — L' inferno esposto in dialetto milanese da F. CANDIANI. Milano, *Crist. Candiani*. 1860. 8°.

Dn. 113.2

229. — Saggio di traduzione in dialetto veronese della Divina commedia. [Inf. i. — Purg. i. — Parad. i. By ANTONIO GASPARI.] Verona, *Antonio Rossi*. 1865. 8°. pp. 68.

Dn. 113.3

230. — Il Dante popolare, o La divina commedia in dialetto napoletano per DOMENICO JACCARINO. [Vol. i. 'Nfierno.] Napoli, *tipografia dell' unione*. 1870 [1871]. 8°. Dn. 113.4

Appendice: — Giudizi, esami critici, polemiche sulla traduzione del Dante per Dom. Jaccarino.

231. — Il paradiso; versione in dialetto calabrese e commento per FRANCESCO LIMARZI, 1^a ed. Castellammare, *tipog. Stabiana*. 1874. 1. 8°. *Front.*

Dn. 113.1

232. — Il primo canto dell' Inferno tradotto in lingua pavana. Dolo, *tipog. Longo*. 1882. 8°. pp. 10.

Dn. 149.7

Latin.

233. — Della commedia trasportata in verso latino eroico da CARLO D' AQUINO della compagnia di Gesù. Coll' aggiunta del testo italiano e di breve annotazioni. *Lat. and Ital.* 3 vol. Napoli, *Felice Mosca*. 1728. 8°.

Dn. 114.2

"L' opera era stata impressa in Roma e lo stampatore si chiamava Pietro Bernabò, ma poichè fu giuocoforza contentarsi d' una permissione *extra urbem* (i. 15), si dovette porre sul frontispizio la falsa indicazione di Napoli.

Questa traduzione è in grande stima, come molto fedele ch' ella è ed anche elegante e piena di bellissimi versi." — Colomb de Batines, i. 244.

234. — L' inferno o sia La prima cantica della Divina commedia tradotto e schiarito a senso preciso di frase in versi eroici latini corrispondenti dal dottore ANTONIO CATELLACCI. *Lat. and Ital.* Pisa, *presso Ranieri Prosperi*. 1819. 8°. Dn. 114.3 (BPL. **E. 227.2)

235. — Polyantha. Opus suavisissimis floribus exornatum compositum per DOMINICUM NANUM MIRABELLIUM. Addita nunc primum est latina interpretatio versuum Dantis & Petrarchæ quos ipsi Italico idiomate cõscripserunt. In Libera Argentina, *apud Matthiam Schurerium*. [1517.] f° ff. ccxxiii. (BPL. *.*4930.51)

In this topical collection of quotations from a variety of authors brought together by Domenico Nani, are included many extracts from Dante in Italian followed by a Latin translation.

236. — Divina comoedia hexametris latinis redita ab abbate DALLA PIAZZA. Praefatus est et vitam Piazzae adiecit C. Witte. Lipsiae, *Ioan. Ambros. Barth*. 1848. 8°. Dn. 114.1

237. — La morte del conte Ugolino. [Inf. xxxiii.] Versione latina inedita di MATTEO RYTO veneziano, monaco olivetano del secolo XV. [Edited by E. A. Cicogna.] Venezia, *tipog. Gaspari*. 1865. f° pp. 8. Dn. 114.4

An account of Ronto and of the manuscripts of his work is given in Colomb de Batines, i. 237-241.

238. — Ugolini comitis mors. (Inf. xxxiii.) — Francisca Ariminensis. (Inf. v.) — Matelda. (Purg. xxviii.) [Translated into Latin by] L. DELLA VECCHIA. (In OMAGGIO a Dante. 1865, 8°, pp. 517-527.) Dn. 561.4

Polish.

239. — Boska komedja, przeklad A. STANISLAWSKIEGO. Poznań, etc., *J. K. Żupańskiego*. 1870. 8°. Dn. 115.1

Spanish.

240. — La divina comedia con notas de Paolo Costa, adicionadas, traducidas al castellano por MANUEL ARANDA Y SANJUAN. Barcelona, *empresa editorial La ilustracion*. 1871. 8°. *Port. and plates.* (ORELLANA, F. J. Los grandes poemas. 1.) Dn. 118.1

A prose translation.

Portrait: — Woodcut copy of Giotto's.

241. — La traduciõ del dante | de lengua toscana en verso caste|llano: por el reuerẽdo don po | FERNÁDEZ DE VILLEGAS arcediano | de burgos | y por el comentado | allende d' los otros glosadores. | [*Appendiced*: — Breue tratado . . . | intitulado. Anersion del | mudo y cõuersion a dios. — Querella dela fe comẽçada por | diego de burgos y acabada anediẽdo entre sus ver|sos lo que conuenia y prosiguiẽdo la adelante por | dõ pero fernández de villegas. — Satira dezena del juenal. . . . | Traduzida por dõ ge|ronimo de villegas. | *Colophon*: —] Burgos por Fadriq | aleman de Basilea . . . | del año . . . de mill y | quinientos y quinze años. [1515.] f° (8) ff. 332. *Plate.*

(BPL. **D. 240b.46)

Ends with the Inferno. The last leaf is supplied in ms.

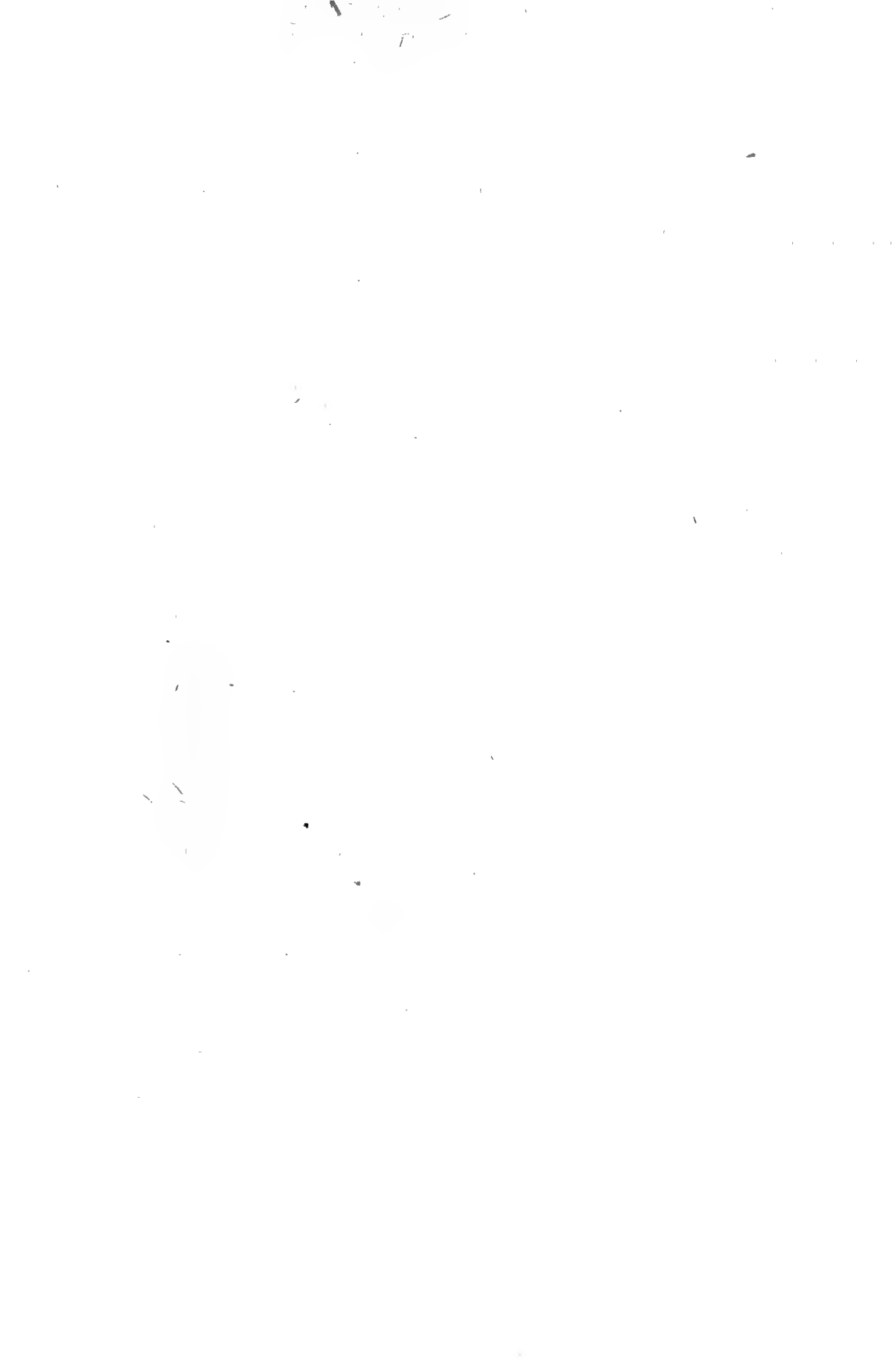
"As far as I have examined this commentary, it is taken from Landino's, first printed 1481. Juana de Aragon, to whom it is dedicated at the beginning, was dead before the printing was finished, 2 April, 1515. See opening of canto xxxiv. Navarrete, therefore, is wrong, following Giannone, in exhibiting her among the personages at the brilliant court of Charles V., at Naples, in the winter of 1535-6. Documentos ineditos de Salvá y Baranda, tom. xvi., 1850, p. 69." — "I have never seen it marked less than £20. Sometimes I have seen it £25." — ms. notes by Mr. Ticknor, to whom the book belonged. "A very rare book, and one of considerable merit." Ticknor. *History of Spanish literature*. The Aversion del mundo, etc., is found in a few copies only.

Swedish.

242. — Gudomliga komedi. Öfversatt af NILS LOVÉN. 3 del. Lund, *C. W. K. Gleerup*. 1856-57. 12°. Dn. 119.1

i. Helvetet. 1856. — ii. Skårselden. 1857. — iii. Paradiset. 1857.

A prose translation, with introductions of some length and notes.



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NO. 8.



CALENDAR

OF THE

ARTHUR LEE MANUSCRIPTS IN THE LIBRARY OF
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REPRINTED FROM THE HARVARD UNIVERSITY BULLETIN.

CAMBRIDGE, MASS. :
UNIVERSITY PRESS: JOHN WILSON AND SON.

1882.

Already issued or in preparation :

A Star prefixed indicates they are not yet ready.

1. EDWARD S. HOLDEN. Index-Catalogue of Books and Memoirs on the Transits of Mercury.
2. JUSTIN WINSOR. Shakespeare's Poems: a Bibliography of the Earlier Editions.
3. CHARLES ELIOT NORTON. Principal books relating to the Life and Works of Michelangelo, with Notes.
4. JUSTIN WINSOR. Pietas et Gratulatio. An Inquiry into the authorship of the several pieces.
5. LIST OF APPARATUS in different Laboratories of the United States, available for Scientific Researches involving Accurate Measurements.
6. THE COLLECTION OF BOOKS AND AUTOGRAPHS, bequeathed to Harvard College Library, by the Honorable Charles Sumner.
- *7. JAMES M. PEIRCE. References in Analytic Geometry.
8. CALENDAR of the Arthur Lee Manuscripts in Harvard College Library.
9. GEORGE LINCOLN GOODALE. The Floras of different countries.
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15. J. D. WHITNEY. List of American Authors in Geology and Palæontology.
- *16. RICHARD BLISS, JR. Classified Index to the Maps in Petermann's Geographische Mittheilungen. 1855-1881.
- *17. JUSTIN WINSOR. A List of the most useful Reference Books.
- *18. JUSTIN WINSOR. The Bibliography of Ptolemy's Geography.

*** The present list has been mainly prepared by Miss K. V. Smith, formerly of the Library Staff.

CALENDAR OF THE LEE MANUSCRIPTS IN HARVARD UNIVERSITY LIBRARY.

*** The papers were given, July 24, 1827, to this Library by RICHARD HENRY LEE, author of the lives of RICHARD HENRY LEE and ARTHUR LEE, and are bound in eight volumes. The numbers represent the pages of the volumes.

VOL. I.

1. **Gooch, Sir William, (Gov. of Va.).** *June 17, 1744.* Letter to [Thomas Lee]. The Indian council at Lancaster, Penn. ff. (2).
2. **Copy of orders.** *April 23, 1760.* Court-martial upon Lord George Sackville for disobedience of the orders of Prince Ferdinand of Brunswick at the battle of Minden. f. (1).
- Lee, Arthur.** *Nov. 5, 1763.* Letter to his brother [Philip Ludwell Lee?] The political situation of England and the produce of Virginia. ff. (2).
- 3, 4. **Massachusetts Bay — House of Representatives.** *Nov. 28, 1764.* Copy of letter sent to Jasper Mauduit and afterwards to Richard Jackson, agents in London for the province. Reasons why Great Britain would gain nothing by the tax on molasses, etc. ff. (3).
5. **Massachusetts Bay, Rhode Island, Providence Plantations, New Jersey, Pennsylvania, Governments of New Castle, Kent and Sussex upon Delaware, and Maryland.** *Oct. 25, 1765.* Copy of memorial to parliament against the stamp act. ff. (2).
6. **Massachusetts Bay — House of Representatives.** *Nov. 7, 1765.* Letter to Dennis De Berdt. His appointment as special agent in London for the province. Signed, "Sam^l White Spkr." ff. (2).
Printed, with a few verbal changes, in Massachusetts Papers, p. 4, published in 1856 by the Seventy-six Society, Philadelphia.
7. **Extracts from three letters on the situation of affairs in America.** Indorsed "1766." f. (1).
The first is from William Donaldson of New York, and written on a slip attached to the sheet on which the others are. The last two are addressed, "My Lord," and are in a different hand.
8. **New Jersey — House of Assembly.** *June 14, 1766.* Order for thanks to be given to Dennis De Berdt "for his Assiduity and Attention to the Affairs of the Colonys During the Application for a Repeal of the Stamp Act." Signed, "Jona. Deare Clk." f. (1).
For the letter of thanks, see 11.
- Massachusetts Bay — House of Representatives.** *June 20, 1766.* Resolution for letter of thanks to be sent to William Pitt for his efforts toward the repeal of the stamp act. Signed, "Sam^l Adams Cler." f. (1).
Printed, Bradford's Massachusetts State Papers, p. 92. For letter of thanks, see 10.
9. **Massachusetts Bay — House of Representatives.** *June 21, 1766.* Note to Charles, Lord Camden, transmitting vote of thanks for his patronage of the colonies. Signed, Thomas Cushing Speaker. f. (1).
— — — *June 21, 1766.* Note to George, Lord Pomfret, for the same purpose. Same signature. f. (1).
For the accompanying vote of thanks, see 13.
10. — — — *June 21, 1766.* Letter of thanks to William Pitt, referred to under 8. Same signature. ff. (2).
11. **New Jersey — House of Assembly.** *June 22, 1766.* Letter of thanks to Dennis De Berdt, referred to under 8. Signed, Cortland Skinner Speaker. ff. (2).
12. **Massachusetts Bay — House of Representatives.** *June 28, 1766.* Letter of thanks and instructions to Dennis De Berdt. Signed, Thomas Cushing Spkr. ff. (2).
Printed, with a few orthographical changes and one additional sentence, in Massachusetts Papers, p. 14, published in 1856 by the Seventy-six Society, Philadelphia.
13. — — — *June 30, 1766.* Vote of thanks to George, Lord Pomfret, referred to under 9. Signed, "Sam^l Adams Cler." f. (1).
14. **Boston — Committee of the Town.** *Oct. 26, 1766.* Draft of part of a letter to Dennis De Berdt. Search of Daniel Malcom's house by the custom-house officers in October, 1766. f. (1).
Composed by Samuel Adams. See Wells' Life of Samuel Adams, I. 130. For the full letter, see 25.
- 15-19. **Copy of a copy of depositions, Sept. 24-Oct. 1, 1766,** sworn before Gov. Bernard's council, in the case of Daniel Malcom's resistance to the search of his house by the deputy-collector William Sheafe, under the "writs of assistance." Depositions by William Sheafe, Benjamin Hallowell, John Ruddock, John Tudor, William Nickels, William Wimble, Nathaniel Barber, John Baker and Stephen Greenleaf, attested by John Cotton, deputy-secretary. Copy certified by William Cotton, town clerk. pp. 18. (Pp. 5-18 are imperfect — torn.)
After a copy of the depositions was at last received from the governor's council, the present copy was probably made by order of the town, to be sent to its agent in England. See Wells' Life of Samuel Adams, I. 130; Drake's History of Boston, p. 737. — For the evidence before the town, see 22.
20. **Downe, Samuel.** *Sept. 26, 1766.* Letter to Dennis De Berdt. Private business. ff. (2). (Imperfect — torn.)

21. **Ashley**, Joseph and Jonathan, and **Woodbridge**, Timothy. Oct. 9, 1766. Letter to Dennis De Berdt, asking his help in establishing an academy at Hatfield, Mass. ff. (2). (Imperfect—torn.)
22. **Copy** of depositions, Oct. 16–20, 1766, by Nathaniel Barber and William Nickels, sworn before Edmund Quincy. Ringing of the north bell and conduct of the people at the time of the Malcom disturbance mentioned above.—Deposition by William Wimple, Oct. 17, 1766, sworn before Joshua Winslow. Copy attested by William Cooper, town clerk. ff. (4).
- For other and contradictory evidence, taken in the governor's interest, see 15–19.
23. **Copy** of deposition, Oct. 21, 1766, by Capt. Daniel Malcom, sworn before Edmund Quincy. Same affair. ff. (2). (Imperfect—first part gone, only last four pages left.)
24. **Boston**. Oct. 8–22, 1766. Two copies of votes of town meeting in reference to the depositions given in the governor's council on the Malcom affair. Attested by William Cooper, town clerk. ff. (2).
25. **Boston**.—*Committee of the Town*. Oct. 26, 1766. Letter to Dennis De Berdt stating the people's version of the Malcom affair and transmitting the depositions given above. Signed, "James Otis pr Order of ye committee." ff. (4.)
Composed by Samuel Adams. See Wells' Life of Samuel Adams, I, 130.—For draft of a part of this letter, written in another hand, see 14.
26. **Deposition**, Dec. 1, 1766, by John Pike, John Lombard, Jr. and Lewis Lombard, Jr., sworn before Barnabas Paine, at Truro, Barnstable Co., Mass. Prevention of fishing in the Straits of Belle Isle by a British man-of-war. f. (1).
- 27, 28. **Massachusetts Bay—House of Representatives**. Dec. 6, 1766. Letter to [Dennis De Berdt], inclosing depositions. Prevention of American fishing and whaling in Newfoundland waters by order of Com. Palliser, gov. of Newfoundland; custom-house officers and regulations. Signed, Thomas Cushing Speaker. ff. (4).
- For the depositions, see 29–31.
- 29–31. **Deposition**, Dec. 9, 1766, by Robert Barker, sworn before Richard Dana. Fishery trouble.—Deposition, Dec. 13, 1766, by Moses Wiley, Cyprian Hinkley and Henry Young, sworn before Belcher Noyes.—Deposition, Dec. 26, 1766, by Thomas Harding, sworn before John Avery. ff. (3).
- These were inclosed in the letter above, 27, 28.
32. **New York—Presbyterian Church**. Feb. 17, 1767. Petition of the ministers, elders, etc., to Sir Henry Moore, captain-general and governor of New York, for leave to prove facts in a former petition for a charter. Signed, John Rogers, Joseph Treat on behalf of the petitioners. ff. (2).
- 33–35. **Massachusetts Bay—House of Representatives**. March 16, 1767. Letter to Dennis De Berdt. Claim of Lieut.-Gov. Hutchinson to a seat in the council. Signed, Thomas Cushing Spkr. pp. 11.
- Composed by Samuel Adams. See Wells' Life of Samuel Adams, I, 135 et seq., where much of the letter is quoted.
- 36, 37. **Massachusetts Bay—House of Representatives**. June 24, 1767. Letter to the same. The fishery trouble in Newfoundland waters; troops in America; the bill for pardon of rioters and compensation of sufferers during disturbances in Boston; paper money; Connecticut and Massachusetts boundary. Signed, Thomas Cushing Spkr. ff. (4).
38. **Sheafe**, Edward. July 1, 1767. Letter from Charlestown to the same. Relations of the colonies with Great Britain; bill for pardon, compensation, etc. (as above, 36, 37). ff. (4). (Imperfect—torn.)
39. **Cushing**, Thomas. Oct. 15, 1767. Private letter to Dennis De Berdt. Imposition of taxes on the colonies; the governor's salary. pp. 8.
40. **Copy** of examination of Robert Hallowell, controller of the port of Boston, at the treasury board in London. July 21, 1768. Seizure of John Hancock's sloop "Liberty." Copy signed, "Jno. Speed." ff. (5).
41. [**Livius** (?), Peter], of New Hampshire. Oct. 18, 1768. Copy of a letter to his brother in London. Quartering troops in America. ff. (4). (Imperfect—torn.)
- This letter has no signature, and the name of the writer, given in the indorsement, is torn, so that only "evius" or "evins" is legible.
42. **Boston—Selectmen**. Feb. 16–18, 1769. Requesting Gov. Bernard to communicate facts which may have been sent to Great Britain militating against the colonies; with the governor's reply. ff. (2).
- Without attestation. Printed, with two names of members different, and with a few verbal changes, in Massachusetts Papers, p. 115, published in 1856 by the Seventy-six Society, Philadelphia.
- — — Feb. 23, 24, 1769. Second request for the same purpose, and second reply. ff. (2).
- Without attestation. Printed, with a few verbal changes and one additional line, in Massachusetts Papers, p. 120, published by the Seventy-six Society, Philadelphia.
- 43–45. — — — Feb. 25, 1769. Letter to Dennis De Berdt reviewing this correspondence. Signed, Joshua Henshaw, Joseph Jackson, John Rudduck, John Hancock, Samuel Pemberton, Henderson Inches. ff. (6).
46. **Lee**, Arthur. March 23, 1769. Letter from London to his brother [Richard Henry Lee] in Virginia. English and American politics. ff. (2).
47. **Dickinson**, John. April 20, 1769. Letter from Philadelphia to Arthur Lee. The disaffection in America and the unworthiness of many of the colonial representatives in London. ff. (2). Printed, Lee's Life of Arthur Lee, II, 293.
48. — — — June 26, 1769. Letter to the same on the same subjects. ff. (2). Printed, Lee's Life of Arthur Lee, II, 296.
- Massachusetts Bay—House of Representatives**. July 22, 1769. Notice to Col. Dalrymple of the time for taking depositions relative to the rescue of John Ryley. ff. (2).
- 49–56. **Depositions**, July 24, 1769, by Jeremiah Belknap, Peter Barbour, Samuel Downe, Joseph Edwards, Thomas Waite Foster, Stephen Greenleaf, Edward Jackson, Edmund Quincy and John Loring, sworn before Richard Dana and Belcher Noyes. Rescue of John Ryley. ff. (13).

57. **Nelson**, William. *Sept. 2, 1769*. Letter from Virginia to Arthur Lee in London. Importing taxed goods, and the line between Virginia and the Cherokees. ff. (2).
58. **Dickinson**, John. *Nov. 25, 1769*. Letter from Philadelphia to Arthur Lee in London. Importing taxed goods. ff. (2).
Printed, Lee's Life of Arthur Lee, II. 297.
- Shelburne**, W. Petty, *Earl of*. Letter to Arthur Lee at Bath, England, inviting him to Bowood Park. *No date*. ff. (2).
Printed, Lee's Life of Arthur Lee, II. 353, where it is dated 1769.
59. **De Berdt**, Dennis. 1770. A draft of memorial to the king's council, by the agent of Massachusetts Bay. Reasons for declining to attend the council to support the charges of the province against Gov. Bernard. Interlined, corrected, and not signed. Indorsed, "For Mr. Lewis." ff. (2). (Imperfect—torn.)
60. **Dickinson**, John. *March, 31, 1770*. Letter from Philadelphia to Arthur Lee. Importing taxed goods; Boston massacre. ff. (2).
Printed, Lee's Life of Arthur Lee, II. 299.
61. **Lord Chatham's** motion, petitioning the king to dissolve Parliament and call a new one. A copy. *May 14, 1770*. f. (1).
62. **Massachusetts Bay**.—*House of Representatives*. [*July ?, 1771*]. Portion of letter of instructions to Benjamin Franklin, agent at London. Gov. Hutchinson's complaint about the preservation of the "king's timber" in the territory of Sagadahoc; request to have the king confirm the grants of townships therein, and of the town of Machias. Signed, Thomas Cushing Speaker. pp. 3-5. (Imperfect—first part gone.)
63. **Lee**, William. *Jan. 20, 1772*. Copy of letter from London to his brother, Francis Lightfoot Lee, on private affairs (dispute with Capt. Walker). ff. (2).
With autograph postscript.
- 64-75. — *March 3-Nov. 18, 1772*. Eleven letters to the same, mainly on private affairs. ff. (26).
- 76-79. **Memoire** sur les avantages qu'offre le port de Dunkerque au commerce des treize collonies unies de l'Amerique Septentrionale. *Not dated or signed*. ff. (4).
5. **Massachusetts Bay**.—*House of Representatives*. *March 6, 1773*. Letter to Lord Dartmouth. The source of the governor's pay and other grievances of America. Signed, Thomas Cushing Speaker. ff. (4).
The second paragraph of this is printed in "A true state of the proceedings in the parliament of Great Britain," etc. [1774.]
7. — — — *March 6, 1773*. Petition to the king for restoring governor and judges to dependence upon the people. Signed, Thomas Cushing Speaker. ff. (2).
8. **Lee**, William. *March 20, 1773*. Note to his brothers, R. H. Lee and F. L. Lee, inclosing copy of his letter to R. C. Nicholas. Accounts of Lee estate. ff. (4).
9. — *July 31, 1773*. Letter to F. L. Lee. Private commercial affairs. ff. (2).
10. — *Sept. 18, 1773*. Letter to the same, with a copy of another, dated *Sept. 11, 1773*. Same subject. ff. (2).
11. — Copy of the above (10). (Imperfect—superscription torn.)
- 12, 13. — *Oct. 4, Dec. 2, 1773*. Two letters to the same. Same subject; election of mayor of London. ff. (4).
14. **Massachusetts Bay**.—*House of Representatives*. *Dec. 21, 1773*. Letter from committee to Benjamin Franklin, the colony's agent in London. Destruction of the tea in Boston harbor; temper of the people. Signed, Thomas Cushing, Samuel Adams, John Hancock, Wm. Phillips. ff. (2).
Printed, Massachusetts Historical Society, Collections, 4th ser. IV. 377.
- 15, 16. **Scollay**, John. *Dec. 23, 1773*. Letter from Boston to Arthur Lee. Same subject. pp. 12.
Printed, Massachusetts Historical Society, Collections, 4th ser. IV. 379.
17. **Lee**, William. *Jan. 4, 10, 29, 1774*. Three letters from London to F. L. Lee. Private commercial affairs. ff. (6). (The last is imperfect—a part torn off.)
18. — *March 19, 1774*. Letter to the same, with a copy of another, dated *March 16, 1773*. Same subject. ff. (2). (Imperfect—slightly torn.)
19. [**Lee**, Arthur]. *April 2, 1774*. Letter to the same. Political situation of America. Not signed. ff. (4).
Printed, Lee's Life of Arthur Lee, I. 37.
20. [**Lee**, William]. *April 2, 1774*. Letter to [F. L. Lee?] Non-exportation to Great Britain. Not signed or superscribed. f. (1).
21. — *April 21, June 5, 1774*. Two letters to F. L. Lee. Private commercial affairs, with a slight reference to politics. ff. (4).
22. — *July 14, 1774*. Letter to the same; with a copy of another of *June 30, 1774*. Private commercial affairs. ff. (2).
— *July 16, 1774*. Letter to the same. Non-exportation to Great Britain. ff. (2).
23. — Copy of the above of *July 16*, with autograph signature and postscript.
— *July 30, 1774*. Letter to the same, with another copy of the above of *July 16*. Private commercial affairs. ff. (2).

VOL. II.

1. **Lee**, William. *Jan. 30, 1773*. Letter from London to his brother, Francis Lightfoot Lee. Private commercial affairs. ff. (4).
2. [**Lee**, Arthur]. *Feb. 14, 1773*. Letter from London to his brother, [Richard Henry Lee.] American politics, etc. ff. (2). (Imperfect—last part wanting.)
3. **Lee**, William. *Feb. 23, 1773*. Letter from London to F. L. Lee. Private commercial affairs. ff. (2).
4. — *March 4, 1773*. Letter to the same, with a copy of the above (3). Same subject. ff. (4). (Imperfect—slightly torn.)

24. [Dickinson, John]. *Aug. 20, 1774.* Letter to [Arthur Lee]. General congress of the colonies. Not signed or superscribed. ff. (2).
Printed, Lee's Life of Arthur Lee, II. 305.
25. Lee, William. *Sept. 5, 1774.* Letter to F. L. Lee. Private commercial affairs. ff. (2).
26. [Dickinson, John]. *Oct. 27, 1774.* Letter from Philadelphia to Arthur Lee. Political aspect of America. Not signed. ff. (2).
Lee, William. *Dec. 5, 1774.* Letter to F. L. Lee. Private commercial affairs; political situation of America. ff. (2).
27. Lee, Arthur. *Dec. 13, 1774.* Letter from London to his brother, [F. L. Lee?] Non-exportation to Great Britain; plans of parliament against America. Not superscribed. ff. (2).
Printed, Lee's Life of Arthur Lee, I. 209.
Lee, William. *Dec. 24, 1774.* Letter to F. L. Lee. Edward Brown's partnership in the firm. ff. (2).
— *Dec. 24, 1774.* Another letter to the same. Private commercial affairs. ff. (3).
29. — Copy of the above (28). pp. 5. (Imperfect—p. 5 torn.)
30. [Lee, Arthur]. *Dec. 26, 1774.* Letter from London to the same. General congress of the colonies; effect upon the ministry. Not signed. ff. (2).
Printed, Lee's Life of Arthur Lee, I. 213.
Buchan, David Stewart Erskine, 11th earl of. *Jan. 5, 1775.* Letter to Arthur Lee. Fairfax lands in Virginia. ff. (2).
Printed, Lee's Life of Arthur Lee, II. 346.
31. Lee, William. *Jan. 13, 14, 1775.* Letter to F. L. Lee. Private commercial affairs; petition of London merchants and traders to parliament for relief to American commerce. ff. (4). (Imperfect—torn.)
Cushing, Thomas. *Feb. 1775.* Private letter from Boston to Arthur Lee. State of feeling in America. ff. (2).
Printed, Lee's Life of Arthur Lee, I. 275.
32. Lee, William. *Feb. 10, 1775.* Letter from London to F. L. Lee. Public and private commercial affairs. ff. (4).
Warren, Joseph. *Feb. 20, 1775.* Letter from Boston to Arthur Lee. Prospect of war; spirit of New England. ff. (4).
Printed, Frothingham's Life of Joseph Warren, p. 418; Lee's Life of Arthur Lee, II. 264.
33. [Lee, William]. *Feb. 25, 1775.* Letter from London to [F. L. Lee]. Politics in England and America; sympathy with the ministry among American merchants in London. Not signed or addressed. ff. (2).
— *Feb. 25, 1775.* Another letter to F. L. Lee. Private commercial affairs. ff. (2).
34. — *March 1, 1775.* Letter to the same. Bill regulating fisheries; war preparations. ff. (2).
— *March 11, 1775.* Letter to the same. Private commercial affairs; commercial restrictions on America. ff. (2).
35. — *March 13, 1775.* Letter to the same. Private commercial affairs. f. (1).
- Franklin, Benjamin. *March 19, 1775.* Letter from London to Arthur Lee. Departure from London; Massachusetts papers, etc. ff. (2).
Printed, Sparks' Life of Franklin, p. 391.
36. Lee, William. *March 21, 1775.* Letter to F. L. Lee. Private commercial affairs. ff. (2).
- 37-44. 46-48. **Depositions.** *April 23-25, 1775.* Fight at Lexington and Concord. Indorsed, No. 2, 4-12, 14-18. All certified to by Nathaniel Gorham, Noty. pubk., at Charlestown, Mass., April 26, 1775. ff. (18).
Lexington. 2. Thomas Rice Willard, sworn before Wm. Reed, Jona. Hastings, Duncan Ingraham, Middlesex, April 23;—4. Capt. John Parker, before Wm. Reed, Josiah Johnson, Wm. Stickney, April 25;—5. John Robbins, before Wm. Reed, Josiah Johnson, April 24;—6. Benjamin Tidd of Lexington, Joseph Abbot of Lincoln, before Wm. Reed, Josiah Johnson, Wm. Stickney, April 25;—7. Nathl. Mulliken, Philip Russell, Moses Harrington, Junr., Thomas Harrington, Daniel Harrington, William Grimes, William Tidd, Isaac Hastings, Jonas Stone, Junr., James Wyman, Thaddeus Harrington, John Chandler, Joshua Reed Junr., Joseph Simonds, Phinehas Smith, John Chandler Junr., Reuben Lock, Joel Niles, Nathan Reed, Samuel Tidd, Benjamin Lock, Thomas Winship, Simeon Snow, John Smith, Moses Harrington ye 3d, Joshua Reed, Ebenezer Parker, John Harrington, Enoch Wellington, John Hosmer, Isaac Green, Phinehas Stearns, Isaac Durant, Thomas Headley [Hadley?], Junr., all of Lexington, before the same, April 25;—8. Nathaniel Parkhurst, Jonas Parker, John Monro Junr., John Winship, Solomon Peirce, John Muzzy, Abner Mead, John Bridge Junr., Ebenezer Bowman, William Monro 3d, Mikah Hagar, Samuel Sanderson, Saml. Hastings, James Brown, all of Lexington, before the same, April 25;—9. Timothy Smith, of Lexington, before the same, April 25;—10. Levi Harrington, Levi Mead, both of Lexington, before the same, April 25;—11. William Draper, of Colrain, before the same, April 25;—12. Thos. Fessenden, before the same, April 23.
- Concord.* 14. John Hoar, John Whithead, Abram Gearfield, Benja. Munroe, Isaac Parks, Wm. Hosmer, John Adams, Gregory Stone, of Lincoln, before Wm. Reed, John Cuming, Jona. Hastings, Duncan Ingraham, April 23;—15. Nathan Barrett, Jonathan Farrar, Joseph Butler, Francis Wheeler, John Barrett, John Brown, Silas Walker, Ephraim Melven, Nathan Buttrick, Stephen Hosmer Junr., Samuel Barrett, Thomas Jones, Joseph Chandler, Peter Wheeler, Nathan Peirce, Edward Richardson, of Concord, before Jona. Hastings, John Cuming, Duncan Ingraham, April 23;—16. Timothy Minot Junr., of Concord, before Wm. Reed, Jona. Hastings, John Cuming, Duncan Ingraham, April 23;—17. Col. James Barrett, of Concord, before Wm. Reed, Jona. Hastings, Duncan Ingraham, April 23;—18. Bradbery Robinson, Samuel Spring, Thaddeus Bancroft, of Concord, James Adams, of Lincoln, before Wm. Reed, Wm. Stickney, Jona. Hastings, April 23.

The entire series (20 in number) is printed in Force's American archives, 4th ser. II. 490, *et seq.*; Shattuck's History of Concord, pp. 342, *et seq.*; Journal of 2d continental congress, pp. 79, *et seq.*; and portions of it are given in Frothingham's Siege of Boston, pp. 367, *et seq.*; Remembrancer, 1775, I. 35, *et seq.*; London chronicle, June 1, 1775; also in various Boston newspapers of the time.

45. **Deposition.** Duplicate of "no. 14" above (p. 44). f. (1). (Imperfect — torn.)
49. **Lee, William.** *April 27, 1775.* Letter from London to Edward Browne, with postscript to F. L. Lee. Tobacco commerce. ff. (2).
50. **Warren, Joseph.** *April 27, 1775.* Letter from Cambridge to [Arthur Lee]. Josiah Quincy's death; necessity of conciliatory measures from England. ff. (2). (Imperfect — signature and address cut out.)
Printed, Frothingham's Life of Joseph Warren, p. 471; and incorrectly in Lee's Life of Arthur Lee, II. 267.
51. [**Dickinson, John.**] *April 29, 1775.* Letter to [Arthur Lee]. Fight at Lexington and Concord. Not superscribed. Signed, J. D. ff. (2).
Printed, Lee's Life of Arthur Lee, II. 307.
52. **Warren, Joseph.** *May 16, 1775.* Letter from Cambridge to [Arthur Lee]. Situation of affairs in America. Not superscribed. ff. (2).
Printed, Frothingham's Life of Joseph Warren, p. 488; and incorrectly in Lee's Life of Arthur Lee, II. 268.
53. **Lee, Richard Henry.** *May 21, 1775.* Letter from Philadelphia to [F. L. Lee?] Action of the provincial assemblies; conduct of British troops. Not superscribed. ff. (2).
54. **Lee, William.** *May 24, 1775.* Letter from London to F. L. Lee. Appointment as alderman of London; private commercial affairs; necessity of firmness in America. ff. (2).
55. **6. Continental Congress, Second.** *Philadelphia, May, 1775.* Form of address to the people of Great Britain. Injuries and attitude of America. Indorsed "1776." ff. (3).
Cf. Journals of congress, I. 134, et seq.; 142, et seq.
57. **58. Copies** of letters, 1775-1778, from Dr. Benjamin Rush, to John Sawbridge and to Mrs. Macaulay, John Sawbridge to Samuel Witham Stockton, William Baker to S. W. Stockton, Saml. Wharton to Benjamin Franklin, Granville Sharp to Benjamin Franklin. Recommendation of S. W. Stockton. 3d copy. Attested by S. W. Stockton. pp. 6.
- Dickinson, John.** *July 7, 1775.* Note from Philadelphia to Arthur Lee. Introduction of Dr. Hutchinson; fighting near Boston. Signature and address crossed out with ink. f. (1).
Printed, Lee's Life of Arthur Lee, II. 312.
59. **Continental Congress, Second.** *July 8, 1775.* Letter to Richard Penn, William Bolla, Arthur Lee, Edmund Burke and — Garth. Inclosure of a petition to the king, a second address to the people of Great Britain, and a letter of thanks to the lord mayor of London. Signed, John Hancock President. — With note added, *Sept. 4, 1775,* by Arthur Lee and Richard Penn. Reception of petition. ff. (2).
Printed, Lee's Life of Arthur Lee, I. 47; and, without the postscript of the agents, in Journals of the 2d continental congress, p. 149.
60. **Dickinson, John.** *July 1775.* Letter from Nairhill to Arthur Lee. Petition to the king proposing plan of accommodation; engagements near Boston. Signature and address crossed out. f. (1). (Imperfect — torn.)
Printed, Lee's Life of Arthur Lee, II. 312.
61. **Dartmouth, William Legge, 2d earl of.** *Aug. 31, 1775.* Note to Richard Penn and Arthur Lee, appointing a meeting. p. (1).
- Lee, Arthur.** Note to Mr. Penn. Same subject. p. (1).
- Penn, Richard, and Lee, Arthur.** *Sept. 2, 1775.* Draft of letter from London to the continental congress. Presentation of the petition mentioned in the preceding notes. f. (1). (Torn.)
62. **Lee, Arthur.** *Sept. 4, 1775.* Letter to [John Dickinson?] Violence of the ministry of Great Britain against the colonies. ff. (2).
63. **Virginia Delegates** to Second Continental Congress. *Oct. 5, 1775.* Draft of letter to committee of safety at Williamsburg. Patrols, military lookouts, etc. — With copy of another, dated *Oct. 23, 1775.* f. (1).
64. **Jackson, Bayard and Co.** *Jan. 18, 1776.* Letter from Philadelphia to Montandouin & Frère at Nantes. Order for merchandise. f. (1).
65. **Vergennes, Charles Gravier, Comte de.** *June 9, 1776.* Letter from Versailles, in French, to [Arthur Lee]. Ammunition for Virginia. With a translation. f. (1).
66. **67. Maryland — 11th Battalion of Militia.** *June 20, 1776.* Copy of a letter to the representatives of Prince George's county in the provincial convention. Support to the union of the colonies. Signed, Thomas Sim Lee, George Lee, Luke Marberry, John Addison, Wm. Barnes Jr., Thomas Trueman, Trueman Skinner, David Crawford, Fulder Bowie, Stephen West. ff. (3).
68. [**Lovell, James.**] 1776. Account of his imprisonment in Boston by the British; unsuccessful efforts for release. (The latter part probably in his autograph.) ff. (2). (Perhaps incomplete.)
69. — *June 25, 1776.* Letter from Halifax to Arthur Lee. Imprisonment at Halifax. ff. (2).
Printed, Lee's Life of Arthur Lee, I. 48.
70. **Certificate**, dated London, *Aug. 3, 1776*, from Geo. Ross, James Hodge, Richd. Rouse (British) as to their good treatment by Capt. Henry Johnson (American) while prisoners on his sloop. (f.) 1.
- 71, 72. **Continental Congress, Second.** *Sept. 26, 1776.* Instructions to Benjamin Franklin, Silas Deane and Thomas Jefferson, commissioners. Proposed treaty with France. Signed, John Hancock Presidt. ff. (4).
Printed, Secret journals of congress, II. 27; Lee's Life of Arthur Lee, I. 280.
73. — *Sept. 30, 1776.* The original appointment of Benjamin Franklin, Silas Deane and Thomas Jefferson as commissioners to make a treaty with France. With seal. Signed, John Hancock Presidt. f. (1) folded.
Printed (with blanks for names), Secret journals of congress, II. 32.
74. — *Feb. 3, 1777.* Copy of the same with Arthur Lee's name substituted for Thomas Jefferson's. Attested on the outside by Benjamin Franklin, Silas Deane and Arthur Lee.
75. **76. Franklin, Benjamin, and Morris, Robert.** *Oct. 1, 1776.* Letter from Philadelphia to Silas Deane. Aid expected from France; battle of Long Island, etc. ff. (4).

77. **Agreement** in French, *Oct. 15, 1776*, between De Montieu, "Rodrique Hortalez & Cie" and Silas Deane. Secret aid to America. ff. (2).

Translation printed, Sparks' Diplomatic correspondence, I. 51.

78. **Continental Congress, Second.** *Oct. 22, 1776*. Extract from the minutes. Appointment of Arthur Lee as commissioner to France in place of Thomas Jefferson. Signed, Chas. Thomson Secy. f. (1).

- 79, 80. — *Oct. 22, 1776*. Instructions, similar to those above (71, 72). Indorsed, No. 2. With Arthur Lee's name in place of Thomas Jefferson's. ff. (4).

- 81-83. — Copy of the same. With extracts from the minutes, dated, *Sept. 26, 28, 1776*, and additional instructions, dated, *Oct. 16, 22, 1776*. Indorsed, *Feb. 5, 1777*, by Franklin, Deane and Lee.

Printed, Lee's Life of Arthur Lee, I. 280.

- 84-88. — Plan of treaty with France, sent with the above instructions. Signed, John Hancock Presid. Indorsed, No. 3. ff. (10).

Printed, Secret journals of congress, II. 7, et seq.

89. **Letter**, dated Berlin, *Nov. 25, 1776*. Super-scribed, "Edward Palmer Middle Temple London." Not signed. Political events of the times. ff. (2).

Many proper names are altered or erased.

90. **Memoir**, *Dec. 1776*, concerning the state of America. Drafted at Paris. ff. (2).

91. **Lee, Arthur**. Copies of political anecdotes of Sir Wm. Howe, Franklin, Gerard and Beaumarchais. ff. (3).

- 92-98. **Morris, Robert.** *Dec. 20, 1776*. Letter from Philadelphia to Silas Deane in Paris. Detail of American misfortunes. With postscript dated, *Jan. 8, 1777*. ff. (13).

Printed (except the opening sentence and the entire postscript), but with differences, in Sparks' Diplomatic correspondence, I. 225, et seq., where it is dated Dec. 21, 1776, and addressed throughout as to the commissioners. This MS. bears pencil marks corresponding to the changes in the printed copy.

99. **Continental Congress, Second.** *Dec. 23, 1776*. Extract from the minutes. Resolution to the commissioners concerning the conduct of Portugal and action to be taken thereon. f. (1).

Printed, Secret journals of congress, II. 35.

100. **Franklin, Benjamin, Deane, Silas, and Lee, Arthur.** *Dec. 28, 1776*. Form of letter to Count d'Aranda, ambassador from Spain to France, asking permission to call upon him. f. (1).

101. **Lee, Arthur.** *Dec. 23, 1776*. Copy of letter to committee of secret correspondence, accepting his nomination as commissioner. — Copy of letter, *Dec. 31, 1776*, to Lord Shelburne. Departure for Paris. f. (1). (Imperfect — latter part wanting.)

Printed, Lee's Life of Arthur Lee, I. 60, 62.

VOL. III.

- I. **Continental Congress, Second.** *Jan. 2, 1777*. Appointment of Benjamin Franklin, Silas Deane and Arthur Lee, as commissioners to make a treaty with France. With seal. Signed, John

Hancock; attest. Chas. Thomson Secy. f. (1), doubled. (Imperfect — cut.)

This differs from the commission on p. 74 of vol. II. by one additional clause: — "and also to enter into and agree upon a treaty with his Most Christian Majesty or such person or persons as shall be by him authorized for that purpose for assistance in carrying on the present war between Great Britain and these United States." See letter from Dr. Franklin on p. 27 of this volume.

2. [**Lee, Arthur**]. *Jan. 4, 1777*. Letter from Paris to his brother, Richard Henry Lee. Defence of the lakes; probable British force. ff. (2).

3. **Commissioners to France.** *Jan. 5, 1777*. Copy of memorial to France. Request for ships, etc. Indorsed by Lee, "Signed by the Commissioners & presented to Count Vergennes, thro M^r Gerard." Not signed. ff. (2).

Printed, Sparks' Diplomatic correspondence, II. 21; Lee's Life of Arthur Lee, I. 63.

4. **Gerard, Conrad Alexandre, Secretary to Vergennes.** *Jan. 5, 1777*. Note to the commissioners. Interview. ff. (2).

5. [**Commissioners to France**]. *Jan. 14, 1777*. Copy of letter to C. A. Gerard. Thanks for message from the king of France, Louis XVI. In Lee's handwriting, not signed. Indorsed, No. 10. f. (1).

The message was probably a verbal one delivered in the interview appointed by Gerard (see p. 4). See also Sparks' Diplomatic correspondence, II. 23, note. Printed, Sparks' Diplomatic correspondence, II. 23; Lee's Life of Arthur Lee, I. 66.

6. **Continental Congress, Second — Secret Committee.** *Jan. 14, 1777*. Copy of letter to the commissioners. Purchase of ammunition from France. Signed, "Rob^t Morris Chairman of the Secret Committee of Congress." Indorsed, 3d copy. ff. (2).

Printed, Lee's Life of Arthur Lee, I. 295.

7. **Gerard, C. A.** *Jan. 30, 1777*. Note to Arthur Lee. Interview. ff. (2). (Imperfect — torn.)

8. **Commissioners to France.** *Feb. 1, 1777*. Copy of memorial to Vergennes. France and England; Gen. Burgoyne. Indorsed by Lee, "Presented by M^r Lee alone at Versailles." Not signed. ff. (2).

Printed, Sparks' Diplomatic correspondence, II. 24; Lee's Life of Arthur Lee, I. 67.

9. [**Continental Congress, Second — Committee of Secret Correspondence**]. *Feb. 2, 1777*. Draft of letter from Baltimore to the commissioners. Blockade by the British; loan of ships of war from France; Gen. Washington; Sir William Howe; Gen. Heath. Indorsed, "Copy of Letter to Commissioners." In R. H. Lee's handwriting, but not signed. f. (1).

Printed, in Sparks' Diplomatic correspondence, I. 257, with differences and signatures: B. Harrison, R. H. Lee, W. Hooper; in Lee's Life of Arthur Lee, I. 290, with verbal changes and signatures: Benj. Harrison, Richard Henry Lee, Jno. Witherspoon.

- 10, 11. [**Commissioners to France**]. *Feb. 6, 1777*. Copy of letter to "The Secret Committee of Congress." Hodge; Farmers-general; American packets; Burgoyne; envoys to Spain and Holland; Nicholas Davis. Not signed. Copy examined by W. T. Franklin. ff. (4).

Printed, Lee's Life of Arthur Lee, I. 310; Sparks' Diplomatic correspondence, I. 260, where it is addressed, "To the committee of secret correspondence." For the difference between the committees see Sparks' Diplomatic correspondence, I. 5, note.

12. **Gruel, J.** *Feb. 8, 1777.* Etat de diferentes sommes Payés à Nantes Par ordre et Pour compte de Monsieur le Docteur franklin. ff. (2).
13. [**Continental Congress, Second—Secret Committee**]. *Feb. 17, 1777.* Draft of letter from Baltimore to the commissioners. Orders for clothing, etc. Signed, Richard Henry Lee; and in his handwriting. Indorsed, "Copy of letter from Secret Committee." f. (1).
14. **Cleveland, Stephen, Capt.** *Feb. 19, 1777.* Letter to Arthur Lee. John Philip Mirckle. ff. (2).
15. [**Lee, Arthur**]. *Feb. 20, 1777.* Letter from "Bourdeau," addressed, "Dear Brother." Thomas Morris; J. P. Mirckle. Not signed. ff. (2).
16. **Gardoqui, Joseph & Sons, merchants at Bilboa.** *March 3, 1777.* Letter from Bilboa to Arthur Lee. Commerce between the firm and America; news of Trenton battle. ff. (2).
17. **Lee, Arthur.** *March 5, 1777.* Copy of memorial from Burgos to Marquis de Grimaldi. Reasons for desiring reception at Madrid. Signed, "Arthur Lee Commissioner plenipotentiary from the Congress of the United States of America." Indorsed, N^o. 13. ff. (2).
- The title here assumed by Lee was not strictly descriptive of his position, and was probably appended only for form, as in his other communications to the court of Spain; see Sparks' Diplomatic correspondence, II. 47, note. Printed, Sparks' Diplomatic correspondence, II. 38; Lee's Life of Arthur Lee, I. 79.
18. **Lee, Arthur.** *March 5, 1777.* Memoria sobre [sic] la contienda en la America. Dated at Burgos. Signed as the last on p. 17. Indorsed, N^o. 14. Interlined with English translation. ff. (2).
- English translation printed, in Lee's Life of Arthur Lee, I. 81; and with differences in Sparks' Diplomatic correspondence, II. 41, where it is stated that the memorial was not presented to the court of Spain, but put into the hands of Marquis de Grimaldi at Burgos, who returned a verbal answer without consulting the court.
- 19, 20. [**Sarsfield, — Comte de**] ? 1777 ? Mémoire. Arrangement of troops in America. Not signed. Indorsed, "Count [Sarsfield's?] plan for troops." pp. 8.
- 21–24. [**Lee, Arthur**]. *March, 1777.* Plan of a treaty with Spain. Not signed. ff. (7).
See Lee's Life of Arthur Lee, I. 84.
25. [—]. *March 6, 1777.* Letter from Burgos. Character of commercial agents of Congress in Europe. Addressed, "Dear Sir"; closing, "Adieu," but not signed. ff. (2).
26. [—]. *March 19, 1777.* Letter from Vitoria to R. H. Lee. Loans to America; additional troops. ff. (2).
- Downer, Eliphalet.** *March 20, 1777.* Receipt, dated Pool, to William Lee for five guineas. Indorsed, "Ent. P. C. fol. 65." f. (1).
27. **Franklin, Benjamin.** *March 21, 1777.* Letter from Passy to Arthur Lee. News of Trenton battle; Lord Cornwallis; Washington; Howe; fresh commission (see p. 1 of this volume); Lee's mission to Spain. ff. (2).
- Printed, Sparks' Diplomatic correspondence, II. 54; Lee's Life of Arthur Lee, I. 75.
28. **Gardoqui, Joseph & Sons.** *March 22, 1777.* Letter from Bilboa to Arthur Lee. News from America; preparation of ships. ff. (2).
29. **Gardoqui, James.** *March 23, 1777.* Letter from Vitoria to Arthur Lee. Washington's advantage over British. ff. (2).
30. **Farmers-General of France.** *March 24, 1777.* Copy of contract with Franklin and Deane for tobacco. In French. Signed, B. Franklin, S. Deane, Paulze. ff. (2). (Imperfect—edges worn.)
Translation printed, Sparks' Diplomatic correspondence, I. 282.
31. [**Commissioners to France**]. *March 28, 1777.* Copy of propositions to Vergennes. Supply of cannon, etc. to America. f. (1).
32. **Cleveland, Stephen, Capt.** *March 28, 1777.* Letter from Bordeaux to Arthur Lee. J. P. Mirckle. ff. (2).
33. [**Gardoqui, Joseph & Sons**]. *April 9, 1777.* Letter from Bilboa to Benjamin Franklin. Supplies for America. Not signed. ff. (2).
34. **Suffolk, Henry Howard, 12th Earl of.** *April 10, 1777.* Copie d'une lettre au comte de Welderden Ministre d'hollande à Londres. Governor of St. Eustatius. Indorsed, "Taken by Conyngham." ff. (2).
35. [**Lee, Arthur**] ? *April 12, 1777.* Copy of letter from Paris to Dr. Richard Price. Conduct of British soldiery in America. Not signed. ff. (3).
36. [**Commissioners to France**]. *April 19, 1777.* Draft of letter to Baron Schulenburg. Friendly relations between America and Prussia. Signatures in pencil. Copy on next page. ff. (2).
Printed, Sparks' Diplomatic correspondence, II. 58; Lee's Life of Arthur Lee, II. 5.
37. [—]. Copy of the same. Signed. Indorsed, No 1. ff. (2).
38. **Gardoqui, Joseph & Sons.** *April 19, 1777.* Letter from Bilboa to Arthur Lee. Supplies for America. With memoranda. ff. (2).
39. **Gardoqui, James.** *April 24, 1777.* Letter from Madrid to Arthur Lee. Loan of 81,000 livres. ff. (2).
40. [**Commissioners to France**]. *April 28, 1777.* Copy of letter from Paris to secret committee of congress. Supplies sent by France; Lee's mission to Prussia. Not signed. Note added by W. T. Franklin.
Printed, Lee's Life of Arthur Lee, I. 314.
- *May 1, 1777.* Copy of letter to Jonathan Williams. Directions about packets. Indorsed, N^o 1. f. (1).
Printed, Sparks' Diplomatic correspondence, I. 285.
41. [**Gardoqui, Joseph & Sons**]. *May 5, 1777.* Letter from Madrid to [Arthur Lee?]. Supplies for America. Superscribed, "Mr John Thompson." Not signed. Indorsed in pencil, Gardoqui. ff. (2).
42. [**Commissioners to France**]. *May 7, 1777.* Draft of memorial to Vergennes. Violations of French neutrality by British vessels; case of the Culloden. Indorsed, "drawn up by A. Lee." ff. (2).

43. [—]. Copy of the same. f. (1).
Grand, Ferdinand, banker at Paris. *May 10, 1777.* Acknowledgment of receipt of a bill for 106,500 livres, indorsed by Gardoqui, in favor of Arthur Lee. f. (1).
 See Gardoqui's letter in Sparks' Diplomatic correspondence, II. 59.
44. [Commissioners to France]. *May 11, 1777.* Letter to Count de Bernstorff, minister to Copenhagen, sending him a letter captured from a British vessel by an American privateer. ff. (2).
Schulenburg-Kehnert, Friedrich Wilhelm, Baron de. *May 20, 1777.* Letter from Berlin to Arthur Lee. Lee's journey to Berlin. In French, with translation by Lee. Indorsed, No 2. ff. (2).
 Translation printed, Sparks' Diplomatic correspondence, II. 63; Lee's Life of Arthur Lee, II. 6.
45. **Gardoqui, James.** *May 29, 1777.* Letter from Madrid to Arthur Lee. Supplies to America from the firm in Bilboa; receipt of tobacco in return. Not signed. ff. (2).
Schulenburg-Kehnert, F. W., Baron de. *June 9, 1777.* Letter from Berlin to Arthur Lee. Lee's journey to Berlin. In French, with translation by Lee. ff. (2).
 Translation printed, Sparks' Diplomatic correspondence, II. 68; Lee's Life of Arthur Lee, I. 90.
46. **Grand, Ferdinand.** *June 10, 1777.* Account with the commissioners. f. (1).
47. **Sollier, J., banker at Nantes.** *June 13, 1777.* Account with the commissioners. ff. (2).
Maltrebiou (?), —. *June 17, 1777.* Letter from Calais to M. Deloder at Paris. His capture and treatment by the British. In French. ff. (2).
48. **Ross, John.** *June 17, 1777.* Letter from Nantes to Silas Deane. Gruel's account against congress. ff. (2).
Schulenburg-Kehnert, F. W., Baron de. *June 18, 1777.* Letter from Berlin to Arthur Lee. Commerce between Prussia and America. In French, with translation by Lee. Indorsed, No 3. ff. (2).
 Translation printed, Sparks' Diplomatic correspondence, II. 75; Lee's Life of Arthur Lee, II. 8.
49. — *June 26, 1777.* Letter to the same. American privateers in Prussian ports. In French, with translation by Lee. ff. (2).
 Translation printed, in Papers in relation to the case of Silas Deane, p. 187, published in 1855 by the Seventy-six society, Philadelphia; Sparks' Diplomatic correspondence, II. 78; Lee's Life of Arthur Lee, I. 97.
- [Lee, Arthur]. *June 28, 1777.* Letter from Berlin to his colleagues at Paris. Cannon from Prussia; robbery of his papers. Indorsed, No 4. ff. (2).
 Printed, Sparks' Diplomatic correspondence, II. 79; Lee's Life of Arthur Lee, II. 9.
50. **Williams, Jonathan, commercial agent at Nantes.** *June 28, 1777.* Copy of letter from Nantes to the firm of De Begray, Beaugard fils & cie. at St. Malo. Disposal of prizes. With copy of circular letter to prize-masters. ff. (2).

Frederick II, of Prussia. *July 2, 1777.* Letter from Potsdam to Arthur Lee. Robbery of Lee's papers. In French, with translation by Lee. ff. (2).

Printed, Lee's Life of Arthur Lee, I. 96; and translation printed, Sparks' Diplomatic correspondence, II. 86.

51. **Deane, Silas.** *July 4, 1777.* Copy of letter from Paris to Jonathan Williams. Disposal of prizes at Nantes. Indorsed, "No 2 Copy of Extract." f. (1).

After the signature is this note added in the same hand: "The forgoing being written in the plural Number is supposed to be from the Commissioners altho' accidentally signed only by M^r. Deane, The Letter to Cap^t. Weeks (see next paper) being to the same effect & being signed by Doct^r. Franklin & M^r. Deane prove this, and the Letter from Doct^r. Franklin of Dec^r. 22, 1777 (see reverse of next paper) ratifying all M^r. Deane's orders renders it perfectly authentic." Printed, except the note, in Papers in relation to the case of Silas Deane, p. 201, published by the Seventy-six society, Philadelphia.

Franklin, Benjamin, and Deane, Silas. *July 4, 1777.* Copy of letter from Paris to Capt. Lambert Weeks. Prizes; Mr. Williams. Indorsed, "No. 3 Copy." — **Franklin, Benjamin.** *Dec. 22, 1777.* Copy of letter from Passy to Jonathan Williams. Same subjects; ratification of Mr. Deane's orders. On reverse of preceding paper. Indorsed, "No 4 Copy of Extract." f. (1).

Printed, in Papers in relation to the case of Silas Deane, p. 200, published by the Seventy-six society, Philadelphia. The note by Franklin, of Dec. 22, 1777, on the reverse, is printed in the same, p. 193.

52. **Lee, Arthur.** *July 6, 1777.* Letter from Berlin to his colleagues in Paris. Robbery of his papers; probable consequences. ff. (2).
 Printed, Sparks' Diplomatic correspondence, II. 86; Lee's Life of Arthur Lee, II. 10.

Williams, Jonathan. *July 8, 1777.* Letter from Nantes to the commissioners. Disposal of prizes; fitting out of privateers. ff. (4).

53. — *July 9, 10, 1777.* Copy of two letters from Nantes to Thomas Morris. Disposal of prizes. ff. (2).
54. — *July 10, 1777.* Letter from Nantes to the commissioners. Same subject; purchase of clothing; discount credit. ff. (4).
55. — *July 12, 1777.* Letter to the same. Thomas Morris; prizes; purchase of clothing. ff. (2).
56. **Vergennes, C. G., Comte de.** *July 16, 1777.* Copy of letter from Versailles to Franklin and Deane. American privateers in French ports. In French. ff. (2).
 Translation printed, Sparks' Diplomatic correspondence, I. 311.
57. — Copy of the same. — [Aug. 21, 1777.] Copy of letter to Grand (see original on p. 66). Privateers; prizes; Chaumont; Hodge. — *March 4, 1778.* Extract of letter from Capt. Cunningham to Arthur Lee. Disposal of prizes. — Note by Arthur Lee. Deane. ff. (2).
 Translation of Vergennes' letter to Grand, Sparks' Diplomatic correspondence, II. 95.

58. **Schweighauser, J. D.** *July 16, 1777 (?)* Letter to the commissioners. Disposal of American goods and prizes. "July 16" added in Lee's(?) handwriting; the year is not given. Indorsed in later hand in pencil, "1777 (?)" ff. (2).

59. **Franklin, Benjamin, and Deane, Silas.** *July 17, 1777.* Copy of letter to Vergennes. Answer to his complaint of violation of neutrality by American privateers (see pp. 56, 57). ff. (2).
Printed, Sparks' Diplomatic correspondence, I. 314.
60. **Weedon, George, Gen.** *July 18, 1777.* Letter from "Clove(?) Camp in New Jerseys" to [R. H. Lee?]. Capture of Gen. Prescott. f. (1).
61. **Pincus d'Eisenstadt, Baruch.** *July 20, 1777.* Letter from Vienna to Arthur Lee. Price of wool and cloth. ff. (2).
Sollier, J. *Aug. 1, 1777.* Account with the commissioners. In French. ff. (2).
62. **Fenet, P. & cie.** *Aug. 2, 1777.* Letter from Nantes to Arthur Lee. Financial transactions of the commissioners; complaints. ff. (2).
- Gerard, C. A.** *Aug. 4, 1777.* Reply to Arthur Lee. ff. (2).
63. **Lee, William.** *Aug. 9, 1777.* Letter from Nantes to [F. L. Lee?]. Difficulties as commercial agent at Nantes. Indorsed, "F L L." ff. (2).
Greive, —. *Aug. 11, 1777.* Note to Arthur Lee. Appointment for breakfast. News from America. ff. (2).
64. **Lee, William.** *Aug. 12, 1777.* Copy of letter from Nantes to R. H. Lee. Difficulties as commercial agent at Nantes. ff. (2).
65. **Commissioners to France.** *Aug. 12, 1777.* Copy of letter to Vergennes. Hodge. Indorsed, "Sent to Count Vergennes by Mr Franklin jun." ff. (2).
Printed, Sparks' Diplomatic correspondence, I. 317.
Franklin, Benjamin, and Deane, Silas. *May 9-Aug. 15, 1777.* Copy of contracts with the firm of Holker fils, Sabatier fils & Desprez for furnishing cloth. In French. Copy certified by H. Ford, Sec'y. ff. (2).
Translation of that of Aug. 15 printed, in Sparks' Diplomatic correspondence, I. 318.
66. **Vergennes, C. G., Comte de.** *Aug. 21, 1777.* Letter to Grand. Privateers; prizes; Chaumont; Hodge. In French. ff. (2). (Imperfect — hole worn.)
See copy on p. 57. Translation printed, Sparks' Diplomatic correspondence, II. 95.
[**Bridgen, Edward.**] *Aug. 29, 1777.* Letter from London to [Arthur Lee]. American politics; character of American agents. Signed, E. B. Superscribed, "Monsieur Johnstone." ff. (2).
Printed, Lee's Life of Arthur Lee, II, 86.
67. **Jennings, Edmund.** *Sept. 1, 1777.* Letter to [Arthur Lee]. American affairs. Signed, "Robert Williams." f. (1).
Printed, Lee's Life of Arthur Lee, II. 99.
[—]. Letter to [Arthur Lee]. Trouble between Franklin and Lee; Carmichael. Not dated. Signed, "G. Harrison." Superscribed, "Monsieur Dupré." ff. (2).
Printed, Lee's Life of Arthur Lee, II. 100.
68. **Wanson, —, maitre tailleur.** *Sept. 2, 1777.* Note in French. Lee's letters; Carmichael. f. (1).
- [**Gardoqui, James.**] *Sept. 4, 1777.* Letter from Madrid to Arthur Lee. Proffers of personal friendship; disposition of Spain toward America. ff. (2).
69. [**Commissioners to France.**] *Sept. 8, 1777.* Copy of letter to "The Secret Committee." Disposition of European powers toward America; financial situation of the commissioners; English trade. Not signed. Attested by W. T. Franklin. ff. (4).
Printed, Lee's Life of Arthur Lee, I. 315; Sparks' Diplomatic correspondence, I. 319, where it is addressed, "To the committee of foreign affairs" (formerly the committee of secret correspondence, see Journals of congress, III. 142).
70. [**Gardoqui, Joseph & Sons.**] *Sept. 13, 1777.* Letter from Bilbao to Benjamin Franklin. Proffers of friendship; consignment of tobacco; Logoanere & Co.; Cuningham. ff. (2). (Imperfect — torn.)
71. **Dumas, Karl Wilhelm Friedrich.** *Sept. 23, 1777.* Letter to Arthur Lee. Lee's journey to Berlin; John Adams; Samuel Adams; Cushing; Newman; Franklin; Deane; Carmichael. Inclosing extracts from two other letters of his of same date. ff. (3).
72. [**Jennings, Edmund.**] *Sept. 24 (?) 1777.* Letter to [Arthur Lee]. Trouble between Franklin and Lee. Signed, "George Harrison." Superscribed, "Monsieur Letsom" (?) ff. (2).
Printed, Lee's Life of Arthur Lee, II. 90, where the date is given *Sept. 27th*. The date is apparently 23 changed to 24.
- Carmichael, William.** *Sept. 26, 1777.* Note to Arthur Lee. Request for an interview. Answer, on same page, from Lee, appointing one. f. (1).
73. 74. **Thompson, Thomas, Capt.** *Sept. 28, 1777.* Copy of letter to the commissioners. Account of the Raleigh's voyage and encounter with a British fleet off the Bermudas. ff. (4).
75. — *Oct. 5, 1777.* Copy of the journal of the Raleigh. Indorsed, "Sent to Congress." ff. (2).
76. **Deane, Simeon.** *Oct. 7, 1777.* Letter from Passy to "Capt. Joseph Hynson or Capt. John Folger." Packets to America. With two other communications to Folger, *Oct. 7, 19, 1777*, on the reverse, the second signed by Franklin and Deane. f. (1).
77. 78. **Commissioners to France.** *Oct. 7, 1777.* Copy of letter from Passy to "The Secret Committee." Money loans from Europe; failure of remittances; commercial agents; Ross; Hodge; Ceronio; Gardoqui; William Lee; Izard. Attested, W. T. Franklin. ff. (4).
Printed, Lee's Life of Arthur Lee, I. 319; Sparks' Diplomatic correspondence, I. 332, where it is addressed "To the committee of foreign affairs." This is probably correct, as the "Secret committee" was dissolved July 5, 1777, and the "Committee of secret correspondence," April 17, 1777.
79. **Rosignan, Sigard, Marquis de, Sardinian envoy to Berlin.** *Oct. 7, 1777.* Letter from Berlin to Arthur Lee. Ticonderoga; Burgoyne; telephones; Sayre. In French. ff. (2).
Translation printed, Lee's Life of Arthur Lee, II. 363.
- [**Gardoqui, James.**] *Oct. 16, 1777.* Letter from Madrid to Arthur Lee. Supplies to America. Signed, J. G. ff. (2).
80. [—]. *Oct. 27, 1777.* Letter to the same. Conduct of American privateers toward French and Spanish property; American army

- at Saratoga; supplies for America. Not signed. ff. (2).
- Sayre, Stephen.** *Oct. 27, 1777.* Letter from Berlin to Franklin. Appeal for support. ff. (2).
81. **[Jennings, Edmund].** *Oct. 1777.* Letter to [Arthur Lee]. Carmichael. Signed, "John Harris." Superscribed, "John Waters." ff. (2).
Printed, Lee's Life of Arthur Lee, II. 97.
- [—]. *Nov. 4, 1777.* Letter to the same. Same subject. Signed, "John Bourgenville." f. (1).
Printed, Lee's Life of Arthur Lee, II. 91.
82. **Lee, William.** *Nov. 11, 1777.* Letter from Paris to his brother, [F. L. Lee?]. Commercial agency at Nantes; mission to Prussia; Carmichael; Capts. Babson and Kendrick; Hodge; Cuninghame; complaints against commissioners at Paris. pp. 8.
83. — *Nov. 24, 1777.* Letter from Paris to R. H. Lee. Commercial agency at Nantes; acceptance of appointment to Prussia; complaints against Williams, Deane; Thomas Morris; Lloyd; Montandouin; Limozin; use of public money. ff. (4).
84. **[Gardoqui, James].** *Nov. 24, 1777.* Letter from Madrid to Arthur Lee. Orders of congress; Ross's cargo of flour at Corunna (see p. 86); Burgoyne. ff. (2).
- [Jennings, Edmund].** *Nov. 25, 1777.* Letter to [Arthur Lee]. Disposition of England; hiring Swiss troops. Signed, "John Townsend." ff. (2).
Printed, Lee's Life of Arthur Lee, II. 92.
85. **[Commissioners to France].** *Nov. 25, 1777.* Letter from Paris to Capt. Thomson. Instructions about prizes. Not signed. ff. (2).
86. **Ross, John.** *Nov. 25, 1777.* Letter from Nantes to Arthur Lee. Gardoqui's letter; cargo of flour at Corunna (see p. 84). ff. (2).
87. **[Gardoqui, Joseph & Sons].** *Nov. 26, 1777.* Letter from Bilbao to Arthur Lee. Remittances to America. ff. (2).
88. **Grand, Ferdinand.** *Nov. 27, 1777.* Memorandum of money remittances. f. (1).
89. **Digges, Thomas, of Maryland.** *Dec. 1, 1777.* Note to W. Thornton. List of American prisoners in Forton prison near Portsmouth, Eng.; their treatment. ff. (2).
90. **Ross, John.** *Dec. 2, 1777.* Note from Nantes to Arthur Lee. Acknowledgment of letter. ff. (2).
- Rosignan, Sigard, Marquis de.** *Dec. 2, 1777.* Letter from Berlin to [Arthur Lee]. Fordyce Bang; Sayre; Elliot; electrophons. In French. Indorsed, N^o 2. ff. (2).
Translation printed, Lee's Life of Arthur Lee, II. 365.
91. **Ross, John.** *Dec. 2, 1777.* Letter from Nantes to the commissioners. Insurance of public property. ff. (2).
- [Jennings, Edmund].** *Dec. 2, 1777.* Letter to [Arthur Lee]. News from America; Washington; Howe; Donop; Burgoyne. Signed, "John Townsend." Superscribed, "Monsieur Waters." ff. (2).
Printed, Lee's Life of Arthur Lee, II. 95.
92. **[Gardoqui, Joseph & Sons].** *Dec. 3, 1777.* Letter from Bilbao to Arthur Lee. Supplies for America. Signed, J. G. ff. (2).
93. **Continental Congress, Second.** *Dec. 3, 1777.* Resolutions on the issue of paper money; directions to the commissioners; borrowing money from France. Signed, Henry Laurens, President; attest. Chas. Thomson Secy. Indorsed, Duplicate. f. (1).
The first two paragraphs were public, and printed in Journals of congress, III. 552; the rest of the paper is printed in Secret journals of congress, II. 55.
94. **[Jennings, Edmund].** *Dec. 5, 1777.* Letter to [Arthur Lee]. Howe; Burgoyne; Washington. Signed, "C. (?) Townsend." Superscribed, "Monsieur Dupre." ff. (2).
Printed, Lee's Life of Arthur Lee, II. 94, where the signature is given as J. Townsend.
- Lee, Arthur.** *Dec. 10, 1777.* Copy of letter from Paris to the earl of Shelburne. Treatment of prisoners; cruelty of Gen. Clinton. Indorsed, Lett. Book. I. p. 144. Copy compared by John Adams. f. (1).
Printed, Lee's Life of Arthur Lee, I. 104; Sparks' Diplomatic correspondence, II. 119, where it is dated Dec. 14.
95. **[Gardoqui, James].** *Dec. 10, 1777.* Letter from Madrid to Arthur Lee. Supplies for America; Capt. Babson; Capt. Hibbert. Not signed. ff. (2).
- Franklin, Benjamin.** *Dec. 11, 1777.* Copy of letter from Paris to Sir Grey Cooper. Condition of American prisoners in England; Major Thornton. With copy of instructions from the commissioners to Major Thornton. Attested, W. T. Franklin. ff. (2).
96. **Mullett, Thomas.** *Dec. 14, 1777.* Letter from Bristol to —, introducing William Stevenson. ff. (2).
- Ross, John.** *Dec. 16, 1777.* Letter from Nantes to Arthur Lee. American vessels; British cruisers; Hodge. ff. (2).
97. **[Gardoqui, Joseph & Sons].** *Dec. 17, 1777.* Letter from Bilbao to Arthur Lee. Supplies for America. ff. (2).
98. **Morris, Robert.** *Dec. 17, 1777.* Copy of letter from Manheim to William Smith of the commercial committee at York, Eng. Conduct of Thomas Morris. ff. (2).
- [Gardoqui, James].** *Dec. 18, 1777.* Letter from Madrid to Arthur Lee. Washington; Howe; supplies for America. Not signed. ff. (2).
- 99, 100. **[Commissioners to France].** *Dec. 18, 1777.* Copy of letter from Paris to the committee for foreign affairs (formerly committee of secret correspondence). Burgoyne's surrender; treaty of amity and commerce with France; remittances of money; favors from France; Lord Stormont; treatment of prisoners. Directed to Robert Morris. ff. (4).
Printed, Sparks' Diplomatic correspondence, I. 355.
101. **Schulenburg-Kehnert, F. W., Baron de.** *Dec. 18, 1777.* Letter from Berlin to Arthur Lee. Burgoyne's surrender. In French, with translation by Lee. ff. (2).
Printed, Sparks' Diplomatic correspondence, II. 120; Lee's Life of Arthur Lee, I. 98.

- [Jennings, Edmund]. *Dec. 22, 1777.* Letter to [Arthur Lee]. London news; Stevenson. Signed, "C. Townsend." f. (1).
102. **Grand, Ferdinand.** *Dec. 23, 1777.* Receipt to Arthur Lee. f. (1).
- Ross, John.** *Dec. 24, 1777.* Letter from Nantes to the commissioners. Shipments to America. ff. (2).
103. **Boux, —, Capt.** *Dec. 24, 1777.* Letter from Paris to [the commissioners?]. Request for commission in American navy. In French. ff. (2).
- Sayre, Stephen.** *Dec. 25, 1777.* Letter from Copenhagen to the commissioners. His plans about going to America; disposition of Denmark toward America. ff. (2).
- 104-107. **Morris, Robert.** *Dec. 26, 1777.* Copy of letter from Mannheim to Henry Laurens. Conduct of Thomas Morris. ff. (4).
108. **Ross, John.** *Dec. 27, 1777.* Letter from Nantes to Arthur Lee. Fitting out cruisers. ff. (2).
109. [**Gardoqui, Joseph & Sons.**] *Dec. 27, 1777.* Letter from Bilbao to Arthur Lee. Supplies for America; Capt. Hibbert; Burgoyne; Howe. Signed, J. G. & Co. ff. (2).
110. **Waller, John.** *Dec. 28, 1777 (?)*. Letter from Plymouth, Eng., to David Hartley. Condition of American prisoners; Condry, the agent; Burgoyne. ff. (3). (Date partly illegible from stain.)
111. **Carmichael, William.** *Dec. 30, 1777.* Letter from Nantes to the commissioners. Ships to America; Williams. ff. (2).
- Morris, Thomas.** *Dec. 30 or 31, 1777.* Copy of letter from Nantes to Jonathan Williams. Appointment of Williams as assistant in the commercial agency at Nantes. Indorsed, N^o 5. f. (1). (Imperfect — part of date torn off.)
112. **Moylan, James.** *Dec. 31, 1777.* Letter from L'Orient to Arthur Lee. British proposition to raise Catholic regiments in Ireland; Macintosh, a Scotch spy. With copy of letter from the commissioners to him promising him the control of the public business at L'Orient. Indorsed, N^o 5. ff. (3).
113. [**Berkenhout, —, Dr.** 1777.] Letter to Arthur Lee. Capture of the Fox; Washington; Philadelphia; paper money. Not signed, dated, or addressed. ff. (2).
- 82^a. **Lenoue, —.** *Nov. 11, 1777.* Letter from Paris, in French, to Arthur Lee. Colombé and Lauty. Indorsed, "Letters relative to the robbery of our Despatches by Folger." ff. (2).
- This paper was inadvertently omitted from its proper chronological place.
2. **Carmichael, William.** [*About Jan. 3, 1778.*] Note to Arthur Lee. Departure for America. Dated, "Saturday 6 o'clock." ff. (2).
- For the circumstances of this and the three following papers, see Lee's Life of Arthur Lee, I. 373, 374; and Papers in relation to the case of Silas Deane, p. 54, published in 1855 by the Seventy-six society, Philadelphia.
3. **Stevenson, William.** [*Jan. 4, 1778.*] Letter to the commissioners. Despatches for America. ff. (2).
4. **Franklin, Benjamin, and Deane, Silas.** *Jan. 4, 1778.* Answer to Stevenson's note (p. 3) Despatches for America. f. (1).
5. **Stevenson, William.** *Jan. 4, 1778.* Reply to the letter of Franklin and Deane. Explanation of his position. ff. (2).
- Lee, William.** *Jan. 4, 1778.* Letter to F. L. Lee. Stevenson; Carmichael; Hodge; Deane; Burgoyne's surrender; British plans for new campaign; prospect of European war. ff. (2).
6. **Letter,** dated "Alnewick," to [Arthur Lee]. *Jan. 4, 1778.* Burgoyne's expedition; Harcourt; sympathy with America. P. S. dated, *Jan. 13.* Not signed, perhaps imperfect; addressed, "Dear Friend"; indorsed, N^o 4. f. (1).
- Ross, John.** *Jan. 5, 1778.* Letter from Nantes to Arthur Lee. Stevenson. ff. (2).
7. [**Lovell, James.**] *Jan. 5, 1778.* Portion of letter to R. H. Lee. Ticonderoga; attorney-general Sergeant of Pennsylvania; Patterson of New Jersey. Date and name indorsed on back. f. (1).
8. — *Jan. 5, 1778.* Letter from York [Pennsylvania] to [R. H. Lee?]. Loss of public papers; sent by the commissioners through Capt. Folger; Gen. Howe; Burgoyne. With an explanatory indorsement and names filled out in another hand. ff. (2).
- Lee, Arthur.** *Jan. 5, 1778.* Draft of letter from Paris to [the committee of foreign affairs]. Result of his missions to Spain and Prussia; effect of Burgoyne's surrender; friendly attitude of Prussia. With a copy of a note in French from Schullenburg, dated, *Dec. 23, 1777.* Indorsed, "Committee" and "No 7." ff. (2).
- Printed, Lee's Life of Arthur Lee, II. 16; and with verbal differences in Sparks' Diplomatic correspondence, II. 123, on p. 122 of which is a translation of Schullenburg's note.
9. — *Jan. 5, 1778.* Letter from Paris to [R. H. Lee]. Treaty of commerce with Portugal; British defence of Canada. ff. (2).
- Printed, Lee's Life of Arthur Lee, II. 126.
- 10, 11. [**Thornton, John (?)**, Major. *Between Jan. 5 and Jan. 8, 1778.*] Memorandum to the commissioners. Prisoners confined by the British at Forton prison near Portsmouth, Eng. With list of those in prison *Dec. 29, 1777.* ff. (6). (Imperfect — each page worn.)
- Probably not the whole, as it is not signed or dated. Name indorsed on outside.
12. — Copy of one sentence in the same. Dr. Bancroft "stock-jobbing" in London for commissioners. Copy attested by H. Ford, sec'y. f. (1).
- Lee, Arthur.** *Jan. 10, 1778.* Extract from a letter to Franklin and Deane. Williams's accounts. Indorsed in Lee's handwriting, "taken from 49th page Letterbook, Vol 2^d"; also in

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1. **Stevenson, William.** *Jan. 1, 1778.* Claim for £500 on the French governor-general at Guadalupe. With note in pencil by Arthur Lee. ff. (2).

- John Adams's, "Copy from a Letter Book of the Hon. A. Lee compared by John Adams." f. (1).
13. [Gardoqui, Joseph & Sons]. *Jan. 10, 1778*. Letter from Bilbao to Arthur Lee. Capt. Cuninghams's prize; supplies for America. Signed, J. G. & Co. ff. (2).
14. 15. Copy of examination, *Jan. 12, 1778*, of Capt. Folger. Opening of despatches to congress, (see p. 8). Signed, James Lovell. ff. (4).
16. Dumas, Karl Wilhelm Friedrich. *Jan. 13, 1778*. Letter from the Hague, in French, to Arthur Lee. News from America; effect of good news on money-lenders in Holland; Van Berkel; commissions in American army; publication of a new encyclopædia. Signed, D. ff. (2).
- [Gardoqui, Joseph & Sons]. *Jan. 14, 1778*. Letter from Bilbao to Arthur Lee. Shipment of supplies for America. Signed, J. G. & Co. ff. (2).
17. [Commissioners to France]. *Jan. 16, 1778*. Copy of orders to Capt. John Paul Jones of the Ranger. Disposal of prizes; conduct toward neutral powers; mention of Moylan, Gourlade [Goulard], Sam. Delap, T. H. Delap, Gardoqui, Leoganere. Signed by Franklin and Deane. — Note added, *Jan. 17, 1778*, by Lee. Disapproval of part of these orders. — Note added, *Jan. 17, 1778*, by Franklin and Deane. Confirmation of orders and reasons therefor. ff. (2).
- Printed, Sparks' Diplomatic correspondence, I. 361, where the name Leoganere is spelled Leagonere.
- [Dumas, K. W. F.]. *Jan. 16, 1778*. Letter from the Hague, in French, to Arthur Lee. News from Hamburg, Leyden, Magdeburg; William Lee; Franklin, Mansfield. Signed, D. ff. (2).
18. Schulenburg-Kehnert, Friedrich Wilhelm, *Baron de*. *Jan. 16, 1778*. Letter from Berlin, in French, to Arthur Lee. Expressions of friendship; arrangement about letters; Gen. Howe; promise of Prussia's acknowledgment, after France; permission for the purchase of guns and ammunition in Prussia. Indorsed, No. 8. ff. (2). (Imperfect — torn.)
- Translation printed, Sparks' Diplomatic correspondence, II. 125, which differs from the one on p. 19.
19. — Translation of the same by Arthur Lee. (Imperfect — edges much worn.)
- Printed, from this imperfect copy, in Lee's Life of Arthur Lee, II. 18.
- [Lovell, James]. *Jan. 17, 1778*. Copy of letter to [Arthur Lee?] in Paris. Robbery of the despatches to congress, sent through Capt. Folger. ff. (2).
- This seems to be one of the commissioners, yet not to Franklin or Deane; but the doubt about its being to Lee comes toward the close, where Lovell asks his correspondent to "enquire of R. H. Lee's worthy brothers" concerning the nature of the inclosure sent to R. H. Lee.
20. Extracts, *Jan. 20-28, 1778*, from news at London and Brest of American events. In French. Superscribed, Monsieur Franklin. In the same handwriting as the notes from Malesherbes on p. 23. ff. (2).
- Stevenson, William. *Jan. 21, 1778*. Letter from Nantes to Arthur Lee. Capt. Nicholson; Carmichael's opinion of Deane and Izard. ff. (2).
21. Lloyd, John. *Jan. 22, 1778*. Letter from Nantes to Arthur Lee. Carmichael's opinion of Deane and Izard. ff. (2).
22. [Gardoqui, James]. *Jan. 22, 1778*. Letter from Madrid to Arthur Lee. Return from Madrid to Bilbao. Not signed. ff. (2).
- Bancroft, Edward. *Jan. 22, 1778*. Letter from Passy to Arthur Lee. Resentment at Lee's suspicion of him. ff. (2).
23. [Dumas, K. W. F.]. *Jan. 23, 1778*. Letter from the Hague in French to the commissioners. Prussia's refusal of passage to British mercenaries; assurances of friendship. ff. (2).
- Lamoignon de Malesherbes, Chrétien Guillaume de, *Minister of State*. *Jan. 24, 1778*. Note of invitation in French to Arthur Lee. William Lee; Sarsfield. f. (1).
- Note to Arthur Lee. Sarsfield. Not dated. f. (1).
24. Lee, Arthur. *Jan. 27, 1778*. Copy of letter to Carmichael. Demand for the despatches sent through him to Congress; with copy of Carmichael's reply refusing them. Indorsed, "Inclosed in Mr. Carmichael's information delivered in May 3, 1779." ff. (2).
- For original of Carmichael's, see p. 30.
- Cushing, Thomas, *Jr.* *Jan. 27, 1778*. Letter from Nantes to Arthur Lee. Capt. Nicholson; departure for America; charge of letters. ff. (2).
25. [Gardoqui, Joseph & Sons]. *Jan. 28, 1778*. Letter from Bilbao to Arthur Lee. Supplies for America. Signed, J. G. & Co. ff. (2).
26. Ross, John. *Jan. 29, 1778*. Letter from Nantes to the commissioners. Thomas Morris's condition of health; care of public papers. ff. (2).
- Lee, Arthur. *Jan. 30, 1778*. Copy of letter to Franklin and Deane. Dangerous consequences of the 12th article of the treaty of [amity and] commerce with France. With copy of reply, *Feb. 1, 1778*, agreeing to its omission. ff. (2).
- Printed, Lee's Life of Arthur Lee, I. 126; Sparks' Diplomatic correspondence, II. 127.
27. Lee, Thomas, *nephew of Arthur Lee*. *Jan. 31, 1778*. Letter to Arthur Lee. Carmichael's refusal to deliver the despatches asked for Jan. 27th, (see p. 24). ff. (2).
28. [Berkenhout, —, *Dr.* *Feb. 1778*.] Letter to [Arthur Lee]. Howe; Washington; Cornwallis; English political parties; America's independence; publication of a pamphlet against Franklin; Israel Mauduit; manufactories; Edmund Tully. Not dated, signed, or superscribed; addressed, "Amico chiarissimo." ff. (2).
- Franklin, Benjamin, and Deane, Silas. *Feb. 1, 1778*. Original of the reply to Lee, (see p. 26). 12th article of the treaty. f. (1).
- Printed, Lee's Life of Arthur Lee, I. 128; Sparks' Diplomatic correspondence, II. 129.
29. Stevenson, William. *Feb. 1, 1778*. Letter from Nantes to Arthur Lee. Carmichael's position toward Franklin, Deane, and Lee. ff. (2).
- Copies of portions of letters about Carmichael and Deane. *Jan. 22, 1778*. John Lloyd from Nantes to Arthur Lee, (see p. 21). — *Jan. 24, 1778*. The same to the same. — *Jan. 21, 1778*. William Stevenson to Arthur Lee, (see p. 20).

- *Feb. 1, 1778.* The same to the same, (see p. 29, above). (Imperfect — unfinished.)
30. **Franklin, Benjamin, and Deane, Silas.** *Feb. 1, 1778.* Copy of letter to Gerard. Omission of the 11th and 12th articles from the treaty. Attested by W. T. Franklin. With copy of Lee's letter on the same subject (see p. 26). ff. (2).
Printed, Lee's Life of Arthur Lee, I. 128; Sparks' Diplomatic correspondence, II. 130.
- Carmichael, William.** *Feb. 1, 1778.* Original of the reply to Lee's letter to him, (see p. 24). Delivery of despatches. ff. (2).
31. — Another copy of the same. Attested by Arthur Lee. f. (1).
32. **Affidavit,** *Feb. 2, 1778,* by Thomas Lee, Wm. Stevenson, and J. Thornton. Interview with Carmichael; (see pp. 24, 27, 30, 31, 32 below). In Thornton's handwriting. ff. (2).
- Lee, Thomas.** *Feb. 5, 1778.* Letter from Nantes to Arthur Lee. Interview of Ross with Carmichael; despatches for congress. ff. (2). (Partly illegible from a stain.)
- 33-39. **France and United States of America.** *Feb. 6, 1778.* Copy in French of the treaty of amity and commerce. Not signed, dated, or filled out completely and with the two disputed articles. ff. (14).
Printed, Martens' Recueil de traités, etc. 2^e éd. II. 587-602; and translation in Treaties, etc. between the U. S. and other powers, Washington, 1871, p. 244, etc.
40. — *Feb. 6, 1778.* Copy in French and English of the "Act separate and secret" of the treaty. Compared with the original by Arthur Lee. f. (1).
English translation printed, Treaties, etc. between the U. S. and other powers, p. 254.
41. **Commissioners to France.** [*Sept. 1, 1778.*] Declaration. Draft in French of the act rescinding the 11th and 12th articles of the treaty. f. (1).
Printed, Martens' Recueil de traités, etc. 2^e éd. II. 602; and English translation in Treaties, etc. between the U. S. and other powers, p. 247.
42. **Lee, Arthur.** *Feb. 9, 1778.* Letter to F. L. Lee. Treaty with France; conduct of Carmichael and Deane. Addressed, "D^r. Loudon." ff. (2).
Printed, Lee's Life of Arthur Lee, II. 132.
- Copies of portions of letters about Carmichael and Deane.** The same as those on p. 29. With the addition of one dated *Feb. 10, 1778,* from Lloyd to Lee. ff. (2). (Imperfect — unfinished.)
43. **Goulard, J. C. F. & fils, Merchants at L'Orient.** *Feb. 10, 1778.* Letter in French from Frankfurt to Arthur Lee. Receipt of letter; American news [Burgoyne's surrender]; proffers of friendship. ff. (2).
[Wharton, Joseph]. *Feb. 11, 1778.* Letter to [Major John?] Thornton. Complaint about letters. Signed, "Tudyuscung"; indorsed, N^o 4. Certified to be Wharton's handwriting by M. Livingston, *July 13, 1778,* and by Matthew Mease, *July 29, 1778.* ff. (2).
44. **Sarsfield, —, Comte de.** *Feb. 14, [1778].* Note in French to Arthur Lee. Invitation to dinner with Malesherbes and Franklin. With seal. ff. (2).
45. **Lee, Arthur.** [*Feb. 15, 1778.*] Draft of letter to the committee of foreign correspondence. Beaumarchais; Lauregais; Wilkes; Deane. f. (1).
This is marked P. S. and is without date. Printed, with verbal differences, in Sparks' Diplomatic correspondence, II. 134, where it stands not as a P. S. but bears the date *Feb. 15, 1778,* and is addressed, "Gentlemen"; it also has there an additional sentence and the testimonial of Lauregais.
46. **Pasteur, William.** [*Feb. 16, 1778.*] Letter from Williamsburg, Va., to William Lee. Request for goods for the Williamsburg manufactory; John King; John Greenhow; Saml. Gist. With invoice. ff. (3).
47. **Pringle, John Julius.** *Feb. 17, 1778.* Extrait d'un discours fait par Mons^r. C. Fox & publié dans le courier de l'Europe 24. Fev. 1778." Franklin's intelligence that the treaty was signed. f. (1).
With a note added by Sparks, "Dr. Franklin's name is not mentioned by Mr. Fox. — See 'Parliamentary Register' of the above date" [*Feb. 17, 1778.*]
48. **Lee, Ludwell, nephew of Arthur Lee.** The same extract copied from the Courier. With note, "*Feb. 18, 1779* Copy compared by John Adams." f. (1).
With a note by Sparks similar to that on the last paper.
[Lee, William]. *Feb. 17, 1778.* Letter from Nantes to F. L. Lee. Thomas Morris; John Ross; Robert Morris; Schweighauser; John Bondfield; treaty; German embassy; military situation of England; Washington; Samuel Adams; Dr. Shippen. Not signed; addressed, "My Dear Loudon." ff. (2).
49. [Hartley, David, M. P.]. *Feb. 18, 1778.* Letter from London to John Thornton. Lord North; conciliation; treaty. Signed, "D H". f. (1).
- Lloyd, John.** *Feb. 18, 1778.* Letter from Nantes to [Arthur Lee]. Carmichael; Deane; Franklin; Williams. Addressed, "Dear Sir"; not superscribed. ff. (2).
50. [Gardoqui, Joseph & Sons]. *Feb. 18, 1778.* Letter from Bilbao to Arthur Lee. Shipment of supplies for America. Signed, J. G. & Co. ff. (2).
- Franklin, Benjamin, and Deane, Silas.** *Feb. 22, 1778.* Copy of letter to [C. A. Gerard]. Rumor of treaty between Howe and Washington; Hartley's letter of *Feb. 18,* (see p. 51). ff. (2).
See Sparks' Franklin, VIII. 232, note, where a portion is printed as addressed to Vergennes with date *Feb. 1.* Franklin himself says, in a letter to Lee on p. 241 of the same volume, that he wrote this to Gerard. As the communications to Vergennes were usually through Gerard, this is probably the explanation of Vergennes' name in Sparks' note.
51. **Copies of letters between Franklin, Deane, and Lee.** Return of despatches by Simeon Deane; acknowledgment of the commissioners by the French court. *Feb. 26, 1778.* Lee to Franklin and Deane. — *Feb. 27, 1778.* Franklin and Deane to Lee. — *Feb. 27, 1778.* Lee to Franklin and Deane. — *Feb. 28, 1778.* Franklin and Deane to Lee, (see p. 52). ff. (2).
The first two are printed in Sparks' Diplomatic correspondence, II. 136, 137.
52. **Ross, John.** *Feb. 26, 1778.* Letter from Nantes to Arthur Lee. Thomas Morris; Robert Morris; complaint about William Lee's interference. ff. (2).

- Franklin, Benjamin, and Deane, Silas.** *Feb.* 28, 1778. Letter to Arthur Lee. Copying of the treaties; sailing of a convoy. f. (1).
This is the original of the last copy on p. 51.
53. 54. **[Commissioners to France].** *Feb.* 28, 1778. Copy of letter to the committee for foreign affairs. Return of despatches; conclusion of the treaty of amity and commerce; Lord North's conciliatory bills; future prospects of America; friendship of France; Babson and Hendricks; William Lee and Thomas Morris; Bermudas; Newfoundland. Attested by W. T. Franklin. ff. (4).
Printed, Sparks' Diplomatic correspondence, I. 369; Lee's Life of Arthur Lee, I. 330.
55. **Izard, Ralph.** *Feb.* 28, 1778. Letter to Arthur Lee. Acknowledgment of the commissioners at the French court. f. (1).
- Williams, Jonathan.** *Feb.* 28, 1778. Letter from Nantes to the commissioners. Sailing of fleet from Quiberon; detention of the Duchesse de Grammont; credit with Grand; cost of fitting the Ranger; agreement with Thomas Morris; escape of Capt. Johnson of the Lexington. ff. (2).
56. **Chaumont, Le Ray de.** *March* 1, 1778. Letter, in French, from Passy to Arthur Lee. Despatches. f. (1).
57. **Franklin, Benjamin, and Deane, Silas.** *March* 1, 1778. Note to Arthur Lee. Despatches; change of appointment. — Note added by W. T. Franklin. Lee's engagement to dinner with Messrs. Chalut. f. (1).
- Chaumont, Le Ray de.** *March* 1, 1778. Letter, in French, from Passy to M. De Kater at Bordeaux. Lee's despatches. ff. (2).
58. **[Thornton, John, major] (?)**. *March* 3, 1778. Note from London to [the commissioners?]. Troops to Canada, Newfoundland; Lord George Germain; Portsmouth; rumor that France will declare the independency of America. Not signed or addressed. Indorsed, Thornton. ff. (2).
- Franklin, William Temple.** *March* 1, 1778. Note to Arthur Lee. Copying letter to congress. With seal. ff. (2).
59. **Essay** in French, *March* 1, 1778. Conciliatory propositions of Great Britain; treaty with France. Not signed or addressed. ff. (2). (Imperfect — worn.)
60. **Franklin, Benjamin, and Deane, Silas.** *March* 3, 1778. Note to Arthur Lee. Appointment; despatches by Austin. ff. (2).
- Commissioners to France.** *March* 4, 1778. Copy of note to C. A. Gerard. Appointment. f. (1).
- Gerard, Conrad Alexander.** *March* 4, 1778. Answer to the commissioners. f. (1).
61. **Llano, —, Marquis de, Ambassador from Spain to Sweden.** *March* 5, 1778. Note in French to Arthur Lee. Acceptance of an invitation to meet Franklin. f. (1).
- Franklin, Benjamin.** *March* 5, 1778. Note to Arthur Lee. Acceptance of invitation. ff. (2).
62. **Franklin, Benjamin.** *March* 6, 1778. Copy of letter to William Lee. Appointment of commercial agents; Williams; Thomas Morris's papers. — *March* 12, 1778. Copy of William Lee's reply. Indorsed, "39 f." Attested by William Lee. ff. (2).
Part of the former printed, Sparks' Diplomatic correspondence, II. 164, note.
- Thornton, John (?)**, major. *March* 7, 1778. Receipt to Henry Grand for £21 (twenty-one pounds). f. (1).
63. **Ross, John.** *March* 12, 1778. Letter from Nantes to the commissioners. Thomas Morris's papers; William Lee; departure of vessels from Nantes; Arthur Lee; the Revenge; Hodge; disputes about the commercial business. Indorsed by Arthur Lee, June 26, 1778, "This Letter was not shewn to me." ff. (2).
64. **[Gardoqui, Joseph & Sons].** *March* 14 (?), 1778. Letter from Bilbao to Arthur Lee. Supplies for America. ff. (2).
The day of the month is illegible from having been altered.
65. **Franklin, Benjamin.** *March* 17, 1778. Letter to Arthur Lee. Departure of Beaumartin's packets from Bordeaux; presentation of bills drawn by Hancock and Lawrence; request for an interview. With note added by Lee appointing an interview. ff. (2).
Franklin's letter printed, Sparks' Franklin, VIII. 248.
- Gerard, C. A.** *March* 17, 1778. Note in French to the commissioners. Appointment for their presentation at court. ff. (2).
Translation printed, Sparks' Diplomatic correspondence, I. 374.
66. **Memorandum,** *March* 17, 1778. Shipment of Izard's effects by "Benjamin et Calverley Berwicke" in the ship Nile, Capt. Goldsmith, for A. M. Mantinelli, Leghorn, to send to Abbé Niccoli. In French. ff. (2).
This ship was taken by a French privateer, and her goods, including Izard's, confiscated to the captors. Several letters on the subject passed between the commissioners, Vergennes, Izard, and Sartine, in September and October, 1778. See Sparks' Diplomatic correspondence, I. 459-461, 467, 470-475, 478, 479.
- [Bridgen, Edward].** *March* 18, 1778. Letter to [Arthur Lee]. Introduction of Garnier; respects to Franklin; William Lee; Sayre. Indorsed, "M. Garnier never came near me." ff. (2). (Imperfect — signature torn out.)
Printed, Lee's Life of Arthur Lee, II. 87.
67. [—]. *March* 18, 1778. Letter to the same. Sending of newspapers; Gerard; Garnier; direction of letters. Not signed; superscribed, "Mons. Alexander Johnstone." ff. (2).
With a request, in the closing paragraph, that his signature to the preceding letter be cut out or the letter burned.
- Chaumont, Le Ray de.** *March* 23, 1778. Note in French to Arthur Lee. Packages from Garnier. ff. (2).
68. **Ross, John.** *March* 23, 1778. Letter from Nantes to Arthur Lee. Thomas Morris's papers; William Lee; Deane; recriminations. ff. (4).
69. **Franklin, Benjamin.** *March* 24, 1778. Copy of note to William Lee. Treaty to be kept secret. f. (1).
- Lloyd, John.** *March* 24, 1778. Letter from Nantes to [Arthur Lee]. Presentation of commissioners; Ross. ff. (2).
70. **[Lee, Arthur.** *Between March 24 and April 1, 1778.*] Letter to F. L. Lee. Recommendation of Mr. Archer; Ross and Williams; Robert Morris; Deane. Not signed. ff. (2).

71. **Lacoisqueta**, Josef de. *March 24, 1778*. Letter from Cadiz, in Spanish, to Benjamin Franklin. Capture of the Fortuna, Capt. Bertrand Renguen; rights of neutrals. ff. (2).
72. **Ross**, John. *March 28, 1778*. Letter from Nantes to Arthur Lee. Credit of Willing, Morris & Co.; Schweighauser; Gardoqui; William Lee. ff. (2).
73. **Gardoqui**, James. *March 30, 1778*. Letter from Madrid to Arthur Lee. Fleet at Havana; Lord Grantham's brother. ff. (2).
- Mortimer**, Charles. *March 31, 1778*. Letter from London to Arthur Lee. Misfortunes; desire to return to Virginia; request for protection; William Lee. ff. (2).
74. **Franklin**, Benjamin. *March 31, 1778*. Copy of letter to Henry Laurens, as president of congress. Testimony to Deane's character and services. ff. (2).
- Printed, Sparks' *Franklin*, VIII. 255; Sparks' *Diplomatic correspondence*, I. 120.
75. **Gerard**, C. A. *April 1, 1778*. Copy of note, in French, to Arthur Lee. Departure for America. With copy of answer. f. (1).
- Translation and answer printed, Sparks' *Diplomatic correspondence*, II. 144.
76. **Sarsfield**, —, *Comte de*. *April 3, 1778*. Letter, in French, to [Arthur Lee]. Invitation to dine with Duchess d'Enville; maps of Spain. ff. (2).
77. **Emery**, John. *April 4, 1778*. Letter from Bilbao to Benjamin Franklin. Trouble about prizes: — Capt. Babson, Capt. Hibbert of the Hawke, Wood of the Britannia, Capt. John Allen; firm of Lynch, Killikelly & Maroney; Capt. Hodge; Burgoyne. ff. (2).
78. **Statement**, [*April, 1778*], in Spanish. The same affair of Capts. Hibbert, Wood, and Allen; John Emery; Manuel Gomez; Patrick MacMahon. No date or signature. ff. (2).
79. **Ross**, John. *April 6, 1778*. Letter from Nantes to Arthur Lee. Willing, Morris & Co.; recriminations. ff. (2).
- Gamba & Archdeacon**. *April 6, 1778*. Letter, in French, from Dunkirk to [Benjamin Franklin?]. Clearance of bottles of rum. Not superscribed. f. (1).
80. **Lenoue**, —. *April 7, 1778*. Note from Paris to Arthur Lee. Passport for Letellier. Indorsed, N. 4. ff. (2).
- [**Jennings**, Edmund. *April 7 (?) , 1778*.] Letter to [Arthur Lee]. "Rescript" of French ambassador; effect on England; Sardinian embassy; peate with America; Gov. Johnstone; Chatham; Gen. Conway; [Sir William Meredith]; Lord North; Burke; pamphlet on the conciliatory bills. Not dated; signed, Duncan Donaldson; superscribed, Monsieur Johnstone. ff. (2). (Imperfect: — torn.)
81. **Blake**, William. *April 8, 1778*. Letter from Nantes to [Arthur Lee?]. Departure for America; offer to take letters for Izard and Arthur Lee; desire for convoy. Not superscribed. f. (1).
- Dumas**, K. W. F. *April 10, 1778*. Letter, in French, from the Hague to the commissioners. Relation between Holland and England; Van Berckel; Ostend, Dort, Haarlem, Amsterdam, Zealand; Deane; Arthur Lee. ff. (2).
82. **Enumeration**, *April 10, 1778*, of French fleet. In French, dated Brest. D'Estaing; Keppel; Howe. ff. (4). (Partly illegible from stains.)
83. **Franklin**, W. T. [*April 10, 1778*.] Note in behalf of Dr. Franklin to Arthur Lee. Presentation of John Adams; Francois, Garnier, Vergennes, Maurepas. Not dated. ff. (2).
84. **Vergennes**, C. G., *Comte de*. *April 11, 1778*. Letter from Versailles to Franklin and Lee. Arrival of John Adams. ff. (2).
- Livingston**, M., *Capt*. *April 11, 1778*. Attestation. Bancroft; Wharton; treaty with France known in England. Witness, Geo. Digges. Indorsed, N^o. 6. f. (1).
- See Papers in relation to the case of Silas Deane, p. 159, etc.
85. **Bondfield**, John, *April 14, 1778*. Letter from Bordeaux to Arthur Lee. Departure of vessels; supply of clothes for soldiers. ff. (2).
- Digges**, George. *April 14, 1778*. Statement, dated Paris. Capt. Barnett; Euge; Capt. MacFarlin [MacFarland]; Chaumont; Capt. Tucker. Indorsed, "Digges v. Chaumont," and "Thornton." f. (1).
86. [**Mauduit**, Israel]. *April 16, 1778*. Copy of paper on British prospects in America; peace, and acknowledgment of independence; war with France. Copied by Arthur Lee at this date and indorsed, "Written by Mr. Mauduit by the direction of Ld. North & circulated under the Orders of Administration." ff. (2).
- Printed, *Remembrancer*, VI. 115, where it is stated that it was written about March 13, 1778, and "circulated at the doors of the two Houses of Parliament."
- Vergennes**, C. G., *Comte de*. *April 17, 1778*. Copy of letter, in French, to Arthur Lee. Thanks for news. Copy certified by H. Ford, sec'y. f. (1).
87. **Williams**, Jonathan. *April 18, 1778*. Letter from Nantes to [Benjamin Franklin?]. Conflict of commercial powers; Arthur Lee; William Lee; Schweighauser. ff. (2).
88. **Limozin**, Andrew. *April 18, 1778*. Letter from Havre de Grace to Arthur Lee. Capt. Hynson; Deane; Carmichael; Folger; Robert Morris; William Lee; John Adams. ff. (4).
89. **Dufourcq**, —. *April 18, 1778*. Mémoire, from Bayonne. Claims upon the ship Sally from Salem; Capt. Thomas; Payez; Gardoqui; Bassecourt; Boussignac; Ossun; Boyetet; Florida Blanca; Hozé; Birmingham; Babington; Lamy. In French. ff. (2).
90. **Vergennes**, C. G., *Comte de*. *April 19, 1778*. Copy of letter, in French, to Arthur Lee. Thanks for English paper. Copy certified by H. Ford, sec'y. f. (1).
- [**Morris**, Robert? *April 22, 1778*.] Copy of letter from Mannheim to John Langdon. Settlement of secret committee's accounts. Copy compared by Wm. Duer, sec'y. Signature worn or torn off. f. (1). (Imperfect — bottom worn off.)

91. **Lee, Arthur.** *April 24, 1778.* Copy of letter to Count Vergennes. David Hartley. "Duplicate copy from the Letter Book," certified by H. Ford, sec'y. f. (1).

Printed, Sparks' Diplomatic correspondence, II. 156; Lee's Life of Arthur Lee, I. 143.

Vergennes, C. G., Comte de. *April 24, 1778.* Copy of answer, in French, to the last paper. Same subject. Certified by H. Ford, sec'y. f. (1).

Translation printed, Sparks' Diplomatic correspondence, II. 157; Lee's Life of Arthur Lee, I. 144.

92. —. *April 24, 1778.* Original of the last paper. With translation by Lee. ff. (2).

Bondfield, John. *April 25, 1778.* Letter from Bordeaux to Arthur Lee. Barnet; MacFarland; affairs in Virginia; King. ff. (2).

93. **[Jennings, Edmund].** *April 26, 1778.* Letter to [Arthur Lee]. Condition of England; books; Gov. Johnstone; Ferguson; "Common Sense." Signed, Donald McGregor; super-scribed, John Pringle. ff. (2).

Printed, Lee's Life of Arthur Lee, II. 91.

94. **Sartine, Antoine Raymond Jean Gualbert Gabriel de, Minister of Marines.** *April 26, 1778.* Letter, in French, from Versailles to the commissioners. Protection of American commerce and ships of war. ff. (2).

95. **[Gardoqui, James].** *April 27, 1778.* Letter from Madrid to Arthur Lee. Acknowledgment of commissioners; John Adams; Silas Deane; prizes; Spanish flotta. Not signed. ff. (2).

—, Note without date, address, or signature. Manufactures; Cunningham; privateers. Marked, "Found enclosed in Letter to Arthur Lee of 27th April, 1778." f. (1).

96. **Bondfield, John.** *April 28, 1778.* Letter from Bordeaux to Arthur Lee. Sailing of packets; MacFarland; Barnet; Chaumont; Livingston; Izard. ff. (2).

97. **Vergennes, C. G., Comte de.** *April 29, 1778.* Letter from Versailles, in French, to the commissioners. Protection of American commerce at Nantes and Bordeaux; convoy; reply of Sartine. f. (1).

98. —. *April 29, 1778.* Letter, in French, to Arthur Lee. Robbery of papers; Cavillon. Indorsed, "On Folger's robbery." ff. (2).

99. **Gannan, Bartholomew.** *April 29, 1778.* Letter from Dunkirk to [Arthur Lee]. Acquaintance with William Lee; request for appointment of his son, James Gannan, as agent at Dunkirk. ff. (2).

[Bridgen, Edward]. *April 29, 1778.* Letter to Arthur Lee. Books from Dr. Price to Franklin; Gov. Johnstone; Israel Mauduit's pamphlet; Cartwright's letter to Lord Abingdon; Garnier; George III. Not signed. ff. (2).

Printed, Lee's Life of Arthur Lee, II. 89.

Thornton, [John, Major]. *April 30, 1778.* Receipt for thirty Louis d'or from Arthur Lee. f. (1).

Written on a portion of a copy of letter from the committee of Congress of which only the name Charles Thomson remains.

100. **Lovell, James.** *May 3, 1778.* Letter from York, [Penn.] to Arthur Lee. Imprisonment at Boston and Halifax; William Powell; Gage; Howe; feeling toward Great Britain. ff. (2).

Printed, Lee's Life of Arthur Lee, II. 292.

101-110. **Continental Congress, Second.** *May 4, 1778.* Ratification of the treaty of amity and commerce with France. With copy of the treaty and a form of passports and letters for ships, in English and French. Signed, Henry Laurens; attest: Chas. Thomson, sec'y. With seal. ff. (20).

This was one of the six official copies sent by Congress to its commissioners in Europe; see Journals of congress, IV. 259, 260.

111. —. *May 4, 1778.* Copy of resolution of thanks to France for the treaties. Signed, Chas. Thomson, sec'y. ff. (2).

See Journals of congress, IV. 257.

112. **[Gardoqui, James].** *May 4, 1778.* Letter from Madrid to Arthur Lee. Supplies for America. Not signed. ff. (2).

Continental Congress, Second. *May 5, 1778.* Copy of resolution desiring the abolition of the 11th and 12th articles of the treaty of amity and commerce. Signed, Chas. Thomson, sec'y. ff. (2). (Stained.)

See Journals of congress, IV. 258.

113. **Adams, John.** *May 5, 1778.* Note to Arthur Lee. Invitation from Vergennes to the commissioners. ff. (2).

[Dumas, K. W. F.]. *May 5, 1778.* Letter from the Hague, in French, to the commissioners. Inclosure of French translations of German letters received by him, dated *Hamburg, May 1, 1778*, and *Berlin, April 26, 1778* (the latter on p. 114). Preparations of Prussia for war with Austria. Signed, D. ff. (4).

114. **Dohrman, Arn^o Enrico.** *May 5, 1778.* Copy of news, in French, sent to K. W. F. Dumas. French and English prizes in Portuguese ports; Deane frigate; the Dauphin, Capt. Israel Turner; the Alarm, Capt. Robert Mann; the Cuningham. Copied by Dumas. ff. (2).

115. **[Dumas, K. W. F.].** *May 7-15, 1778.* Letter from the Hague, in French, to the commissioners. Interviews with Van Berckel and others; endeavors to obtain the friendship of Holland. Not signed. ff. (4). (Imperfect — unfinished.)

116. **Continental Congress, Second.** *May 7-9, 1778.* Copy of resolutions. Expenses of the commissioners; captains in the navy. Signed, Chas. Thomson, sec'y. f. (1).

See Journals of congress, IV. 266, 276.

117. —. Another copy of the resolves of May 7, above (p. 116).

Bondfield, John. *May 8, 1778.* Letter from Bordeaux to the commissioners. Arrival of ships from Savannah and Charleston; disposal at Cadiz of Cuningham's prizes; MacFarland, Barnet. ff. (2).

118. **Continental Congress, Second.** Another copy of the resolves of May 9, above (p. 116).

119. **Chaumont, Le Ray de.** *May 11, 1778.* Letter, in French, to Arthur Lee. Receipt of letter from Monthieu. f. (1).

120. **Gardoqui**, James. *May 11, 1778*. Letter from Madrid to Arthur Lee. Bills on Paris banks. ff. (2).
- Copies**, *May 12, 1778*, of letters to and from Arthur Lee. 1. Lee to Chaumont, in French. Answer to that on p. 119; Monthieu's letter. — 2. Lee to Lord —. Assurance of esteem; Abbé Raynal; Barré; Dunning; Priestley; Price. (Imperfect — first part torn off.) — 3. Chaumont to Lee. Copy of the above (p. 119). Indorsed, "True copies from the Letter Book. (duplicates) H. Ford, sec'y." Also in Adams's handwriting, "Compared by John Adams." f. (1).
121. [**Jennings**, Edmund]. *May 12, 1778*. Letter to [Arthur Lee]. Chatham's death; Barré; Rigby; Dunning; Pultney; Townsend; policies; insurance; trade; Howe; Clinton; the Ranger. Signed, Malcolm Derimpre; addressed, Mons^r Johnstone. ff. (2).
- Printed, *Lee's Life of Arthur Lee*, II. 104.
- Bondfield**, John. *May 12, 1778*. Letter from Bordeaux to Arthur Lee. Mr. Hewes of Edenton, Va.; Barnet; Chaumont; Capt. Barry; Thomas Morris; Robert Morris; Willing & Morris; privateering. ff. (2).
122. **Gardoqui**, Joseph & Sons. *May 13, 1778*. Letter from Bilbao to Arthur Lee. Supplies for America. ff. (2).
123. **Continental Congress**, *Second — Committee for Foreign Affairs*. *May 14, 1778*. Copy of letter to Arthur Lee. Receipt of letters; despatches through Deane and Capt. Young; Prussia; "Rodrique Hortalez & Co.;" commerce of America; Gardoqui; treaties with France; finance, depreciation of paper money. Signed, Rich^d. Henry Lee, James Lovell, Rob^t. Morris. ff. (2).
- Printed, Sparks' Diplomatic correspondence, II. 159.
124. —. *May 14, 1778*. Letter to the commissioners. Disposition of America; conciliatory bills; Howe; Washington; despatches through Deane; treaties with France; 11th and 12th articles of treaty of amity and commerce; misconduct of American armed vessels. Signed, Richard Henry Lee, James Lovell. Indorsed, "Duplicate" and "N^o 7." ff. (2).
- Printed, Sparks' Diplomatic correspondence, I. 388.
125. —. *May 15, 1778*. Extract from letter to the commissioners. 11th and 12th articles of the treaty. — With extract from the letter of May 14, (p. 124). Same subject. In R. H. Lee's handwriting. f. (1).
126. —. *May 15, 1778*. Another extract from the same letter of this date. Payment of tobacco according to contract. With summary of resolutions passed on May 16. "Hortalez & Co." In R. H. Lee's handwriting. f. (1).
- For the full letter of May 15, 1778, see Sparks' Diplomatic correspondence, I. 393.
127. [**Thornton**, John, *Major*]. *May 16, 1778*. Letter from London to [Arthur Lee?]. Portsmouth; English fleet; arrival of Burgoyne; Washington; [Bancroft, Wharton], Franklin, Deane; Chatham, Camden; privateers; Jersey and Guernsey. Not signed or addressed; indorsed, "Thornton about going to Jersey N^o 4." ff. (2). (Imperfect — torn.)
128. [**Jennings**, Edmund]. *May 19, 1778*. Letter to [Arthur Lee]. Advice; "stock-jobbing"; Townsend; "MacGregor"; D'Estaing's squadron at Toulon; Walpole; Burgoyne; Capt. Jones; Franklin; the Alfred and Raleigh; [Thornton]. Signed, Donald MacDonald; not superscribed; addressed, "My Dear Nephew," and worded throughout as if advice to a young man just starting in business. ff. (2).
- Printed, *Lee's Life of Arthur Lee*, II. 102.
- Franklin**, Benjamin. *May 19, 1778*. Note of invitation to Arthur Lee. Bertin; Chalut. ff. (2).
- On the reverse is a copy of a note from Arthur Lee, *June 7, 1779*, to Count d'Aranda, transmitting memorial. There are besides parts of lines of another letter and the separate indorsements, "Invitations," "Spanish Papers," "Papers used in the No 3^d of Appendix to the Memoir of A. L." The note from Lee to Count d'Aranda is printed in this appendix, *Lee's Life of Arthur Lee*, I. 277.
129. **Thornton**, John, *Major*. *March 10, May 7, 16, 21, 1778*. Copies of letters and intelligence to Arthur Lee, numbered 1-5. 1. Account of forces in Great Britain, *March 18, 1778*. — 2. *March 10*. Letter in French. British commissioners to America; prisoners at [Portsmouth or Plymouth]; expenses; Lord Carlisle, Eaton, Jackson, Palliser, Wharton, Grand. — 3. *May 7*. Letter from London. Information about American secret negotiations "from R—'s lady." — 4. *May 16*. Copy of the letter on p. 127. — 5. *May 21*. Letter from Portsmouth. Strength of British fleet. ff. (4).
130. **Lenoue**, —. *May 21, 1778*. Letter to Arthur Lee. Carmichael's servant. ff. (2).
- This is probably in reference to the investigations concerning the robbery of the despatches sent through Capt. Folger.
- [**Ridley**, —] ? *May 22, 1778*. Letter to [Arthur Lee?]. Warnings about treachery; Virginia goods; Burgoyne; Capt. Solomon Townsend; the Randolph and Yarmouth. Not signed or superscribed; indorsed, Ridley. ff. (2).
131. **Coffyn**, Frans. *May 23, 1778*. Letter from Paris to the [commissioners]. Inclosure of copy of a memoir made in 1777 at request of Carmichael on the advantages of the port of Dunkirk to the American trade. Not superscribed. ff. (2).
- 132-135. —. Mémoire, referred to in the last paper (p. 131). In French. Not signed or dated. pp. 8. (Imperfect — edges worn.)
136. **Bondfield**, John. *May 26, 1778*. Letter from Bordeaux to Arthur Lee. Fulfilment of commissions; D'Estaing; fleet at Cadiz. Indorsed, "Advertisement abt. Byrons fleet. N^o. 2." ff. (2).
- Lloyd**, John. *May 28, 1778*. Letter from Nantes to Arthur Lee. Departure for America; despatches and credentials; William Lee. ff. (2).
137. [**Dumas**, K. W. F.]. *May 29, 1778*. Letter from the Hague, in French, to the commissioners. Presentation of letter from the commissioners to the grand pensionary announcing the treaty with France; [Van Berckel]; ambassadors from France, Spain, and England; friendly disposition of the states general; Welderen; Howe; death of Chatham; arrival of Burgoyne in England. With French transla-

- tion of a German letter to Dumas from Berlin, *May 26, 1778*. Preparations for war. Signed, D. ff. (3).
138. **Williams, Jonathan.** *May 29, 1778*. Copy of account at Nantes with the commissioners. Certified by H. Ford, sec'y. With copy of charges, *Nov. 15, 1777*, of S. & I. (?) H. Delap of Bordeaux and Jean Sabatier & fils of Montpellier on the same goods. Certified by H. Ford, sec'y; witness, William Lee. ff. (2).
- [**Thornton, John, Major.**] *May 30, 1778*. Letter to [Arthur Lee]. Admiral Byron's fleet; Admiral Keppel; additional information in England about the secret negotiations of the commissioners in France; repetition of particulars given in letter of May 7 (see p. 129). Not signed or superscribed; indorsed, "Thornton." ff. (2).
139. [**Wharton, Samuel.**] *June 1, 1778*. Letter to [Dr. Edward Bancroft]. Thornton's exposure of secrets of the commissioners. Not addressed; signed, "P—a C—o"; indorsed, No. 1. Evidently in a disguised hand. — Another letter from the same to the same. Same subject. Not signed or dated; superscription crossed out; indorsed, "No 2." ff. (2).
- [**Chaumont, Le Ray de.**] Note about letters; Cavillon. Not signed, dated, or superscribed; indorsed, "M. de Chaumont's note," and in pencil by a later hand, "June (?) 1778." f. (1).
- Part of the investigation concerning the robbery of the despatches sent by Folger; see Vergennes' letter to Arthur Lee of April 29 (p. 98).
140. [**Ridley, —.**] *June 2, 1778*. Letter to Arthur Lee. Introduction of Rev. Hezekiah Ford (afterwards Lee's secretary); news from America; reception of the conciliatory bills; the Virginia, Nicholson; parliament and ministry; Keppel; Howe, Clinton; Ireland; embargo; press. Not signed; indorsed, Ridley. ff. (2).
- [**Gardoqui, James.**] *June 4, 1778*. Letter from Aranjuez to Arthur Lee. Supplies for America; Cuninghame. Signature probably cut out. ff. (2).
141. [**Ridley, —.**] *June 5, 1778*. Letter to Arthur Lee. [Hartley's] motion in the house of commons for recognizing the independence of America; fleet at Toulon; exchange of prisoners. Not signed; indorsed, Ridley. ff. (2).
- Vergennes, C. G., Comte de.** *June 5, 1778*. Letter, in French, to Arthur Lee. Aid [for Virginia] from Prince de Montbarey. With translation. Indorsed, No. 1. ff. (2).
- Translation printed, Lee's Life of Arthur Lee, I. 413.
142. **Montbarey, Alexandre Marie Léonor DE SAINT MAURIS, Comte and Prince de, Minister of War.** *June 5, 1778*. Copy of letter, in French, to Vergennes. Supplies for Virginia. f. (1).
143. **Vergennes, C. G., Comte de.** *June 5, 1778*. Copy of letter on p. 141. Certified by H. Ford, sec'y. f. (1).
- [**Thornton, John, Major.**] *June 8, 1778*. Letter to — (?). Change of ministry, North, Gower, Jenkinson, Stormont, Suffolk; fear of French invasion, preparations; Capt. Jones; Keppel; De Chartres; Scotch and Irish; British affairs in America; Sir Wm. Howe. Not signed or superscribed; indorsed, Thornton. ff. (2).
144. [**Ridley, —.**] *June 9, 1778*. Letter to Arthur Lee. Introduction of Ogden; Percival; Franklin; Capt. Collis. Not signed; indorsed, Ridley. ff. (2).
- Vergennes, C. G., Comte de.** *June 10, 1778*. Copy of letter, in French, to Arthur Lee. Thanks for news from London. Certified by H. Ford, sec'y. f. (1).
- Jones, William, Capt.** *June 10, 1778*. Two receipts to Arthur Lee for 453 livres. f. (1). (Imperfect — torn.)
145. **Emery, John.** *June 10 or 11, 1778*. Letter from Bordeaux to Arthur Lee. Capt. John Allen; Dr. Smith of the Revenge; Cuninghame. ff. (2).
- See also pp. 77, 78, on Allen's affair.
- [**Gardoqui, James.**] *June 11, 1778*. Letter from Madrid to Arthur Lee. Remittances. Not signed. ff. (2).
146. **Sartine, A. R. J. G. G. de.** *June 12, 1778*. Letter, in French, to Arthur Lee. Detention of prisoners by Americans in French ports. ff. (2).
147. **Montbarey, A. M. L. DE S. M., Comte and Prince de.** *June 13, 1778*. Letter, in French, to Arthur Lee. Supplies for Virginia. Indorsed, "No. 4," and afterwards, "No 2." With translation. ff. (2). (Imperfect — torn.)
- Translation printed, Lee's Life of Arthur Lee, I. 413.
- [**Gardoqui, James.**] *June 15, 1778*. Letter from Madrid to Arthur Lee. Remittances. Signed, J. G. ff. (2).
148. **Lee, Arthur.** [*June 14, 1778.*] Copy of letter to Vergennes. 12th article of the treaty. — With translation of Vergennes' reply, *June 15, 1778*. f. (1).
- Both printed, with verbal differences, in Sparks' Diplomatic correspondence, II. 171-173.
149. [**Dumas, K. W. F.**] *June 15, 1778*. Extracts, in French, from French and Dutch papers and from despatches of ministers. Reception of William Lee at Vienna; disposition of the Dutch government. With a printed slip from newspaper containing what is quoted on the first sheet. One signed, D, and directed to the commissioners; the others unsigned. ff. (4), and slip.
150. [**Ridley, —.**] *June 16, 1778*. Letter to Arthur Lee. Introduction of William Moore; Keppel. Not signed. ff. (2).
- [**Gardoqui, James.**] *June 18, 1778*. Letter from Madrid to Arthur Lee. Remittances; supplies for America. Not signed. ff. (2).
151. **Sartine, A. R. J. G. G. de.** *June 20, 1778*. Letter, in French, to Benjamin Franklin. Schweighauser; prizes. ff. (2).
152. **Continental Congress, Second — Committee for Foreign Affairs.** *June 21, 1778*. Copy of letter from York, Penn., to the commissioners. Arrival of commissioners for peace; Clinton's evacuation of Philadelphia; Washington;

- Holker. Signed, Richard Henry Lee, Thos. Heyward, Junr., James Lovell. Copy attested by Arthur Lee. Indorsed, N^o. 1. ff. (2).
Printed, Sparks' Diplomatic correspondence, I. 402.
153. [Gardoqui, James]. *June 22, 1778*. Letter from Madrid to Arthur Lee. Remittances. Signed, J. G. ff. (2).
[Thornton, John, Major]. *June 24, 1778*. Letter to [Arthur Lee?]. Fears of French invasion; Keppel; Washington; Clinton; Howe. Superscribed, "Alex. Johnston"; not signed. ff. (2).
This is supposed to be to Arthur Lee from the superscription being the same which is used as a cover by Bridgen and Jennings to conceal their communications. The tone of the letter, however, as well as of that of June 8 (on p. 143), is of a sympathizer with Great Britain. If this were for purposes of concealment, probably the letter of June 8 was to Lee also. But it would seem that Lee and Thornton had no communication with each other at that time; as appears by Papers in relation to the case of Silas Deane, p. 163, and Ridley's letter of June 2 (see p. 140 of this volume).
154. **Commissioners to France.** *June 25, 1778*. Letter to the legislature of South Carolina. Absence of Miss Stevens from Carolina. In Arthur Lee's handwriting. f. (1). (Imperfect—much torn.)
[Gardoqui, James]. *June 25, 1778*. Letter from Madrid to Arthur Lee. Remittances. Signed, J. G. ff. (2).
155. **Sartine, A. R. J. G. G. de.** *June 26, 1778*. Letter, in French, to the commissioners. Capt. William Castle. ff. (2).
156. [Dumas, K. W. F.]. *June 19, 23, 26, 1778*. Letter from the Hague, in French, to the commissioners. Reception of William Lee at Vienna; disposition of Holland. Signed, D. ff. (2).
[Gardoqui, Joseph & Co.]. *June 27, 1778*. Letter from Bilbao to Arthur Lee. Departure of Capt. Hodge and Capt. West; supplies for America; Capt. Cuninghame. Signed, J. G. & Co. ff. (2).
- VOL. V.**
1. [Bridgen, Edward]. *July 2 (?) , 1778*. Letter to Arthur Lee. Thornton, Bancroft, Wharton; ambassador from Spain; Washington. Date nearly illegible; not signed; indorsed, "Bridgen about Thornton." ff. (2).
Printed, Lee's Life of Arthur Lee, II. 84, where the date is given 1777.
2. **Jones John Paul, Capt.** *July 3, 1778*. Copy of paper presented to the commissioners. Communication from the minister of marine (Sartine). Copied by Arthur Lee. f. (1).
Bondfield, John. *July 4, 1778*. Letter from Bordeaux to Arthur Lee. Admiral Byron; Keppel; treachery; supplies for America. ff. (2).
3. **Chaumont, Le Ray de.** *July 5, 1778*. Letter, in French, to Benjamin Franklin. Inclosure of letter (see next paper). Indorsed, N^o. 1. f. (1).
Letter, in French, directed to Franklin. Suggestive; accusation against Dobrée. Signed I (?) ; indorsed, N^o. 2; not dated. Marked in pencil, "5 July '78?"
4. **Copy of same.** With indorsement by H. Ford, sec'y, *Sept. 24, 1778*. f. (1).
5. **Sartine, A. R. J. G. G. de.** *July 5, 1778*. Letter, in French, to the commissioners. John Paul Jones. ff. (2).
Order of confiscation. *July 6, 1778*. In French. Capt. Allen's affair; prize Britannia; Capt. Wood. f. (1). (Imperfect—worn.)
See also IV. pp. 77, 78, 145.
6. **Statement,** *July 7, 1778*. ["Charles de Weissenstein"]; Vergennes; Jennings. Indorsed, "Copie pour M. f. . . ."; also by Mr. Sparks, "The above is doubtless a fabrication." f. (1).
This seems on its face to be the report of the detective to the superintendent of police, sent by Vergennes to the commissioners. For particulars concerning this singular paper, see Sparks' Diplomatic correspondence, III. 45; Sparks' Franklin, VIII. 278; Adams' Life and works of John Adams, III. 178.
7. **Gardoqui, Joseph & Co.** *July 8, 1778*. Letter from Bilbao to Arthur Lee. Remittances; supplies for America. ff. (2).
8. [Lee, Arthur]. *July 12, 1778*. Copy of letter, in French, to Chaumont. Schweighauser; Dobrée. Certified by Lee. Indorsed, N^o. 3. f. (1).
9. **Chaumont, Le Ray de.** *July 13, 1778*. Letter, in French, to Arthur Lee. Answer to the preceding. Indorsed, N^o. 4. f. (1).
See also the papers on p. 3.
[Wharton, Samuel]. Note to John Thornton. Loan of twenty guineas. Not dated or signed; indorsed, N^o. 3. Certified to be Wharton's handwriting by M. Livingston. *July 13, 1778*. f. (1).
See also IV. p. 139.
10. **Puchelberg & Co.** *July 13, 1778*. Letter from L'Orient, in French, to Arthur Lee. Capt. Samuel Tucker; Schweighauser. ff. (2).
11. **Lloyd, John.** *July 14, 1778*. Letter from Nantes to [Arthur Lee]. Receipt of letters; departure for America; Blake. f. (1).
Emery, John. *July 14, 1778*. Letter from Bordeaux to Arthur Lee. Confiscation of prize; appeal from sentence. f. (1).
See also IV. pp. 77, 78, 145, and V. 5.
12. **Sarsfield, —, Compte de.** *July 14, 1778*. Letter from Rennes, in French, to Arthur Lee. Receipt of news; Washington; Keppel; Shelburne. ff. (2).
13. **Livingston, M., Capt.** *July 15, 1778*. Letter to Arthur Lee. Thornton; Joseph Wharton; Samuel Wharton; Bancroft; Blake. Indorsed, N^o. 5. ff. (2).
See also IV. p. 139, and V. 9.
Puchelberg & Co. *July 15, 1778*. Letter from L'Orient, in French, to Arthur Lee. Prizes. ff. (2).
14. **France.** *July 16, 1778*. Ratification of the treaty of amity and commerce. Copy, in French, signed "Louis. Par le Roi Gravier de Vergennes." f. (1).
Printed, Marten's Recueil de traités, etc. 2^o éd. II. 602.
15. **Adams, John.** *July, 1778*. Note to Arthur Lee. Ratifications of the treaty. Letters from Arthur Lee, William Lee, and Izard. f. (1).

16. **Emery, John.** *July 22, 1778.* Letter from San Sebastian to Arthur Lee. Confiscation of prize; Capt. Allen; Capt. Wood. ff. (2).
See also IV. pp. 77, 78, 145, and V. 5, 11.
[**Lee, Arthur.**] *July 22, 1778.* Draft of letter, in French, to Chaumont. [Schweighauser; Dobrée; William Lee]. Not signed; indorsed, N^o. 5. ff. (2).
See also pp. 3, 9.
- 17-19. **Franklin, Benjamin.** *July 22, 1778.* Letter to James Lovell. Deane; Capt. Young; Beaumarchais; Francy, duties on exports; objections to 11th and 12th articles of treaty; [Arthur Lee, William Lee, Izard]; expenses of commissioners; Stormont; Spain; relations between England and France; war in Germany; drafts of congress; Bingham; Dumas. Indorsed, Copy. ff. 6.
Printed, with verbal differences, Sparks' Franklin, VIII. 288; Sparks' Diplomatic correspondence, III. 52.
20. **Gardoqui, James.** *July 23, 1778.* Letter from Madrid to Arthur Lee. Remittances. ff. (2).
Franklin, Benjamin, and Adams, John. *July 23, 1778.* Copy of letter to Henry Laurens. Ambassadors from England for peace; Vergennes. ff. (2).
Printed, Sparks' Diplomatic correspondence, I. 412.
— Note to Lee. With an indorsement by Lee, *July 24, 1778.*
Probably in reference to the preceding paper.
- 21, 22. **Montbarey, A. M. L. DE S. M., Comte and Prince de.** *July 26, 1778.* Copy of letter, in French, to Vergennes. Supplies for Virginia. With list of artillery to be furnished. ff. 3.
23. **Chaumont, Le Ray de.** *July 27, 1778.* Letter, in French, to Arthur Lee. Suspicions of William Lee. Indorsed, N. 6. f. (1).
See also pp. 3, 9, 16.
- Grand, Ferdinand.** *July 28, 1778.* Letter to Arthur Lee. Questions concerning accounts. ff. (2).
24. **Statement,** in Spanish, *July 28, 1778,* dated San Sebastian. Cuningham; Allen; refusal of appeal from the judgment of the court (?). Signed, "De Basecourt; Liz^{do} Arontegui." f. (1). (Imperfect — worn.)
See also, IV. pp. 77, 78, 145, and V. 5, 11, 16.
25. **Dumas, K. W. F.** *July 28, 1778.* Letter from the Hague, in French, to the commissioners. Extracts from despatches from Vienna and Ratisbon, *July 11, 16, 23;* news from Germany; 11th and 12th articles of treaty; English ambassadors for peace; Almodovar; Van Berckel. ff. (2).
26. **Sartine, A. R. J. G. G. de.** *July 29, 1778.* Letter, in French, to the commissioners. Provisions for the islands of St. Pierre and Miquelon; privateers; prizes. ff. (2).
Translation printed, Sparks' Diplomatic correspondence, I. 414.
27. **Emery, John.** *July 29, 1778.* Letter from Bilbao to Arthur Lee. Capt. Allen; request for commission. With note, added by Lee, to Franklin and Adams, *Aug. 9, 1778.* ff. (2).
Bargum, F. *July 30, 1778.* Receipt, to Arthur Lee, for 48 livres. f. (1).
- 28, 29. **Dunteguy, Garralde.** *July 31, 1778.* Letter from San Sebastian, in French, to Arthur Lee. Cuningham; Gardoqui; Emery, Allen; Count d'Aranda; Deane; privateers. ff. 4.
30. **Vergennes, C. G., Comte de.** *Aug. 3, 1778.* Note, in French, to Arthur Lee. Thanks for letters and papers. With translation by Lee. f. (1).
— Copy of the above, certified by H. Ford, sec'y. f. (1).
31. **Dumas, K. W. F.** *Aug. 4, 1778.* Letter from the Hague, in French, to the commissioners. Inclosure of letter from Van Berckel; treaty with France; favorable disposition of Holland; Orvilliers, Keppel. With extracts from despatches, and postscript. Declaration of emperor of Morocco; Welderen; reception of conciliatory bills in Pennsylvania. ff. (3).
32. **Lee, William.** *Aug. 5, 1778.* Two letters to Arthur Lee. Thomas Morris; Ross; Robert Morris; Lewis; Simeon Deane; supplies for Virginia; Lemaire; British commissioners for peace; Johnstone, Eden, Ferguson; Byron, Keppel; war in Germany; Franklin. ff. (2).
33. **Gardoqui, Joseph & Sons.** *Aug. 5, 1778.* Letter from Bilbao to Arthur Lee. Supplies for America. ff. (2).
34. **Bargum, F.** *Aug. 8, 1778.* Receipt, to Arthur Lee, for 48 livres. f. (1).
Sartine, A. R. J. G. G. de. *Aug. 10, 1778.* Letter, in French, to Arthur Lee. Suit of Scott and Delon against Papillon and Lartois. ff. (2).
35. **Schweighauser, Jean Daniel.** *Aug. 11, 1778.* Letter from Nantes to Arthur Lee. Accusations against Dobrée; Franklin; Granville; Chaumont. ff. (2).
36. **Dobrée, Peter Frederick.** *Aug. 11, 1778.* Letter from Nantes to the commissioners. Accusations; Schweighauser; Lee; Chaumont. ff. (3).
37. **Gardoqui, Joseph & Sons.** *Aug. 12, 1778.* Letter from Bilbao to Arthur Lee. Vessels to America. ff. (2).
38. **Grubb, J.** *Aug. 13, 1778.* Letter from Nantes to Arthur Lee. Bergon; Capt. Taylor; Ford; Ross; desire for employment. ff. (2).
39. **Sartine, A. R. J. G. G. de.** *Aug. 16, 1778.* Letter, in French, to the commissioners. Prizes. ff. (2).
Translation printed, Sparks' Diplomatic correspondence, I. 418.
40. **Ross, John.** *Aug. 18, 1778.* Letter from Nantes to the commissioners. Ceronio; Thomas Morris; William Lee. ff. (2).
Lloyd, John. *Aug. 18, 1778.* Letter from Nantes to Arthur Lee. Departure for America; care of despatches. Williams; Schweighauser. ff. (2).
41. **Dobrée, P. F.** *Aug. 20, 1778.* Letter from Nantes to Arthur Lee. Chaumont's accusation; inclosure of letter to the commissioners. ff. (2).
— Copy of the same. f. (1).
42. — *Aug. 20, 1778.* Copy of letter from Nantes to the commissioners (referred to in

- the preceding letter). Chaumont's accusation; request for investigation. Copy certified by H. Ford, sec'y. f. (1).
43. **Puchelberg & Co.** *Aug. 26, 1778.* Letter from L'Orient, in French, to Arthur Lee. Arrival of vessels; Capt. Daniel MacNeil; Moylan; prizes. ff. (2).
- Emery, John.** *Aug. 26, 1778.* Letter from Bilbao to Arthur Lee. Capt. Allen's commission as privateer; Gardoqui; departure and arrival of vessels. ff. (2).
44. **Lloyd, John.** *Aug. 29, 1778.* Letter from Nantes to [Arthur Lee?]. Assurances of friendship; departure for America; Stevenson. Not superscribed. ff. (2.)
- Bondfield, John.** *Aug. 29, 1778.* Letter from Bordeaux to Arthur Lee. Shipments to America; Izard's goods; Duke de Mouchi; Marchioness de Lafayette. ff. (2).
45. **Gardoqui, Joseph & Co.** *Aug. 29, 1778.* Letter from Bilbao to Arthur Lee. Shipments to America; Capt. Barzilla Smith of North Carolina; Howe. f. (1). (Imperfect — worn.)
- [**Jennings, Edmund.** *Aug. or Sept. (?) 1778.*] Letter to Arthur Lee. Recommendation of nephew; probable meeting of [French and English] fleets; Eden. Not dated or signed; superscription cut off; marked in pencil, "about Sept. 26, '78?" ff. (2).
- Printed, Lee's Life of Arthur Lee, II. 106.
46. **Bondfield, John.** *Sept. 1, 1778.* Letter from Bordeaux to Arthur Lee. Shipments to America; duties. ff. (2).
- Duer, William.** *Sept. 2, 1778.* Copy of bill of exchange for £51 sterling on Chaumont in favor of Nicholas La Farque. With memorandum of payments by Chaumont appended. ff. (2).
47. **Chaumont, Le Ray de.** *Sept. 5, 1778.* Letter, in French, to Arthur Lee. Inclosure of note from Lessart(?); accusation against Dobrée. With answer from Lee, in French. Indorsed, No. 8. ff. (2).
48. **Boisbertrand, Gaiault de.** *Sept. 7, 1778.* "Memoire," in French, to the commissioners. Inducements to go to America; Dubourg; Penet; Deane; imprisonment; misfortunes; petition for relief. ff. (2). (Imperfect — stained and worn.)
49. **Cottnisses, —.** *Sept. 7, 1778.* Note from Paris, in French. Money loans. Not superscribed. ff. (2).
- Gilbank, John, and Gale, John.** *Sept. 8, 1778.* Letter from Paris. Cannon or Kennan, a spy; Dobrée; Mallett. Not superscribed. ff. (2).
50. **Emery, John.** *Sept. 9, 1778.* Letter from Bilbao to Arthur Lee. Privateers; Capt. Allen; Capt. Tuck; D'Estaing. ff. (2).
- [**Dumas, K. W. F.**] *Sept. 9, 1778.* Letter from the Hague, in French, to the commissioners. Proceedings of the states-general; Van Zeaberg; Boschart. Not signed. ff. (2).
51. **Continental Congress, Second.** *Sept. 11, 14, 1778.* Copy of resolutions appointing Franklin minister plenipotentiary to France. Signed, Chas. Thomson sec.; copy attested by W. T. Franklin. f. (1).
52. **Vergennes, C. G., Comte de.** *Sept. 13, 1778.* Letter, in French, to the commissioners. Stevenson; Sartine. ff. (2).
53. **Bancroft, Edward.** *Sept. 14, 1778.* Letter to Benjamin Franklin. Request from Ellison and Samuel Wharton. ff. (2).
- Camyn, —,** *Assistant Mayor of Calais. Sept. 15, 1778.* Letter, in French, to Arthur Lee. Longchamp; Madame Necker; proffers of service. ff. (2).
54. **Gilbank, John.** *Sept. 17, 1778.* Letter from Nantes to Arthur Lee. Delay about departure for America; request for money. ff. (2).
- Ford, Hezekiah, Rev., Secretary to Arthur Lee.** *Sept. 17, 1778.* Review of the contracts entered into by Franklin and Deane with Montieu, Holker, and Williams, compared with that entered into by Arthur Lee with Bondfield of Bordeaux. ff. (2).
55. **Lloyd, John.** *Sept. 19, 1778.* Letter from Nantes to William Lee. Thanks for introduction to F. L. Lee; accusation against Dobrée and Schweighauser. ff. (2).
- Lloyd, John, and Blake, Daniel.** *Sept. 19, 1778.* Letter from Nantes. Testimony to Schweighauser's character. Not superscribed. ff. (2).
56. **Gardoqui, Joseph & Sons.** *Sept. 19, 1778.* Letter from Bilbao to Arthur Lee. Supplies for America; Capt. Smith; Capt. Ives; D'Estaing; Gen. Charles Lee. ff. (2).
- Lloyd, John.** Copy of the letters from Lloyd on p. 55. Certified by H. Ford, sec'y. ff. (2).
57. **Rosignan, Sigard, Marquis de.** *Sept. 20, 1778.* Letter from Turin, in French, to Arthur Lee. Acknowledgment of letter; travel. ff. (2).
- Bondfield, John.** *Sept. 22, 1778.* Letter from Bordeaux to Arthur Lee. Capt. Ayres; shipments to America; commission. ff. (2).
58. **Vergennes, C. G., Comte de.** *Sept. 23, 1778.* Letter, in French, to [Arthur Lee]. Holker; duties; Franklin; Adams. ff. (2).
59. **Lee, Arthur.** *Sept. 25, 27, 1778.* Observations on Montieu's accounts. Williams; Deane; Holker. ff. (2).
- Bondfield, John.** *Sept. 26, 1778.* Letter from Bordeaux to Arthur Lee. Remittances; Joseph Wharton. ff. (2).
- 60-64. **France.** *Sept. 27, 1778.* Draft of regulation concerning prizes in the ports of the United States and of France. pp. (12).
- Translation printed, Sparks' Diplomatic correspondence, I. 419, etc where the 2d and 14th articles are given in a different form; this MS. is probably the draft sent by Sartine to the commissioners, Aug. 16, 1778 (see p. 39), and differs considerably in wording from that finally adopted, which is printed in Martens' Recueil de traités, etc. III. 123, etc.
65. **Grand, Hy.** *Sept. 27, 1778.* Letter to [Arthur Lee]. Accounts. f. (1).
66. **Gardoqui, Joseph & Sons.** *Sept. 30, 1778.* Letter from Bilbao to Arthur Lee. Supplies for America. ff. (2).
67. [**Norton, George F.**] *Oct. 2, 1778.* Letter from Dover to William Lee. Intelligence of British vessels. Signed, G. F. N. ff. (2).

65. [Mason, George]. Oct. 2, 1778. Copy (?) of letter from Gunston Hall, Virginia, to [Col. George Mercer], in England. Digges; family affairs; declaration of rights; independence. pp. 4. (Imperfect — last part gone.)
Printed, except the portion on family affairs, Virginia historical register, II. 1, p. 28.
- Vergennes, C. G., *Comte de*. Oct. 5, 1778. Letter, in French, to Arthur Lee. News from America; D'Estaing. With translation. ff. (2).
69. Continental Congress, *Second*. Oct. 6, 1778. Copy of resolution inviting Dr. Price to America. Signed, Chas. Thomson, sec'y. f. (1).
Printed, Secret journals of congress, II. 101.
- Gardoqui, Joseph & Sons. Oct. 7, 1778. Letter from Bilbao to Arthur Lee. Supplies for America; Emery's privateers. ff. (2).
70. —. Oct. 7, 1778. Letter from Bilbao to Arthur Lee. Supplies for America; D'Estaing; Byron. ff. (2).
71. Sartine, A. R. J. G. G. de. Oct. 7, 1778. Letter, in French, to the commissioners. Izard's effects; Martinelli; Niccoli. ff. (2). (Imperfect — edges worn.)
See IV. 66; printed, Sparks' Diplomatic correspondence, I. 467.
72. Mason, George. Oct. 8, 1778. Copy of letter from Gunston Hall, Virginia, to William Lee. Investment of money in Europe; remonstrance. With copy of another letter on same subject, *March*, 4, 1779, and copy of answer from Lee, *Sept.* 25, 1779. Defense and explanation. ff. (2).
73. Gardoqui, Joseph & Sons. Oct. 10, 1778. Letter from Bilbao to Arthur Lee. Arrival of vessels; news from America; D'Estaing; Sullivan; Howe. ff. (2).
74. Cathalarck, Estienne. Oct. 12, 1778. Letter from Marseilles to Arthur Lee. Supplies of medicine for America; Schweighauser; Izard's effects. ff. (2).
Comyn, M. Oct. 14, 1778. Letter from Marseilles to Arthur Lee. Desire for appointment as commercial agent. ff. (2). (Imperfect — torn.)
75. [Lee, William]. Oct. 15, 1778. Letter from Frankfort a/M. to R. H. Lee. Treaty with Holland; estate in Virginia; private commercial arrangements; appointment of consuls in France; Edward Browne; change of commissioners; [Carmichael, Deane]; Johnstone; D'Estaing. Signed, W. L. pp. 7.
76. Vergennes, C. G., *Comte de*. Oct. 17, 1778. Copy of letter, in French, to Arthur Lee. Spain. Copy attested by H. Ford, sec'y. f. (1).
Printed, Sparks' Diplomatic correspondence, II. 495.
— Oct. 19, 1778. Copy of letter, in French, to Arthur Lee. Thanks for American news; D'Estaing. Copy attested by H. Ford, sec'y. f. (1).
77. Continental Congress, *Second*. Oct. 22, 1778. Copy of resolution recommending harmony between commissioners. Signed, Chas. Thomson, sec'y; copy attested by W. T. Franklin. f. (1).
Printed, Secret journals of congress, I. 123.
- Vergennes, C. G., *Comte de*. Oct. 24, 1778. Letter, in French, to Arthur Lee. D'Estaing's movements; Byron; Parker; Howe. With translation. ff. (2).
Translation printed, Sparks' Diplomatic correspondence, II. 199.
78. Amsterdam — *Merchants*. Oct. 24, 1778. Address, in French, to the Prince of Orange. British insults to Dutch commerce. Translated from the Dutch by Dumas, with a note added. ff. (2).
- Sarsfield, —, *Comte de*. Oct. 24, 1778. Note, in French, to Arthur Lee. Apology; Franklin. ff. (2).
79. Gerard, *Mad*. Deverly, wife of C. A. Gerard. Oct. 26, 1778. Copy of letter, in French, to the commissioners. Request for favor. With copy of letter, *Nov.* 1, 1778, from commissioners to Schweighauser concerning the same. Indorsed, N^o 4. f. (1).
80. Gardoqui Joseph & Sons. Oct. 28, 1778. Letter from Bilbao to Arthur Lee. Supplies for America. ff. (2). (Imperfect — torn.)
- Lloyd, John. Oct. 29, 1778. Letter from Nantes to Arthur Lee. Blake; accusation against Schweighauser; "La Belle Poule." ff. (2).
81. Sarsfield, —, *Comte de*. *Nov.* 1, 1778. Letter, in French, to Arthur Lee. Mrs. Gibbs; Prince de Condé's "pavillon." ff. (2).
— [Nov. 4, 1778.] Letter, in French, to the same. Same subject. ff. (2).
- [Rulls, George. *Nov.*, 1778]. Letter addressed, "My Lords." Condition and treatment of American prisoners in [Mill Prison, Plymouth]. Not signed, dated, or superscribed. ff. (2).
82. —. [Nov. 8 (?), 1778.] Letter to Arthur Lee. Treatment of prisoners. ff. (2).
- Kirk, Arthur. *Nov.* 7, 1778. Testimony confirming Rulls' statements; treatment while prisoner in Mill Prison. f. (1).
83. Statement, [Nov., 1778?]. Capture of Eliphallet Downer, William Burt, and Seth Clarke. f. (1).
- Lee, Arthur. *Nov.* 12, 1778. Draft of letter to K. W. F. Dumas. Loan from Holland. ff. (2).
84. [Sarsfield, —, *Comte de*]. *Nov.* 15, [1778]. Letter, in French, to [Arthur Lee]. Mrs. Gibbs; Franklin; Bergasson. Not signed or superscribed. ff. (2).
[—]. *Nov.* 15, [1778]. Letter, in French, to the same. Same subjects. Not signed. ff. (2).
85. Dumas, K. W. F. *Nov.* 24, 1778. Letter from the Hague, in French, to Arthur Lee. Receipt of Lee's letter of the 12th; probable result. ff. (2).
86. Adams, John. *Nov.* 28, 1778. Letter to Arthur Lee. Recommendation of Lieut. Brown of the Boston. f. (1).
— *Nov.* 29, 1778. Letter to Arthur Lee. Recommendation of a Lieut. Adams. ff. (2).
87. Sarsfield, —, *Comte de*. [Nov.] 28, [1778]. Note, in French, to Arthur Lee. Invitation to dinner; illness of Mrs. Izard; prince de Condé. With seal. ff. (2).
This is dated only, Samedy 28, and the month and year are suppositions from its connection with S's note on next page.
88. Craig, —, and Readhead, —. Note to Arthur Lee. Thanks for passes; Digges. Not dated; marked, in pencil, "about 29 Nov. 78." ff. (2).

- Sarsfield**, —, *Comte de*. Nov. 29, [1778]. Note, in French, to Arthur Lee. Prince de Condé. ff. (2).
89. **Johnson**, —, and **Hobson**, —. Note of thanks to Arthur Lee. Not dated; indorsed, in pencil, "about 29 Nov. '78." f. (1).
- Gardoqui**, James. Nov. 30, 1778. Letter from Madrid to Arthur Lee. Illness; change of residence. ff. (2).
90. **Norton**, George F. Dec. 3, 1778. Letter from London to Arthur Lee. Recommendation of Henry Farley. ff. (2). (Imperfect—torn.)
91. **Gibbes**, Mrs., and **Stevens**, Miss. Note to Arthur Lee. Acceptance of invitation. Not dated; marked in pencil, "about 3 Dec. '78?" [Sarsfield, —, *Comte de*. Dec. 5 (?), 1778.] Note, in French, to Arthur Lee. Mrs. Gibbes; Prince de Condé's "pavillon"; Mrs. Izard. ff. (2).
92. **Extract** from letter, Dec. 7, 1778. Adams; Lee; Dobrée; Schweighauser; Franklin. In French, with English indorsements, to the effect that Carmichael believed it was written by Holker and quoted by G[ouverneur?] Morris, May 3, 1779, in a letter to congress. Signed, J. L. [James Lovell?]. f. (1).
93. **Sarsfield**, —, *Comte de*. Dec. 7, 1778. Note, in English and French, to Arthur Lee. Acceptance of invitation. ff. (2).
- , Dec. 13, 1778. Note, in French, to Arthur Lee. La Rochefoucauld. ff. (2).
94. [Lee, William]. Dec. 13, 1778. Letter to [his brother?] in Virginia. Congress manifesto; expedition to Charleston; Clinton; Washington; D'Estaing; Penet; supplies for Virginia. f. (1). (Imperfect—torn.)
95. **Louis XVI**, *King of France*. Dec. 19, 1778. Copy of announcement to congress of the birth of a princess. f. (1).
96. **Bondfield**, John. Dec. 19, 1778. Letter from Bordeaux to Arthur Lee. Arrival of vessels from America; Gridley; Nairac; Byron; D'Estaing; Montieu, Beaumarchais, [Williams]. ff. (2).
- Vergennes**, C. G., *Comte de*. Dec. 23, 1778. Note, in French, to Arthur Lee. Thanks for pamphlet. f. (1).
97. **Gardoqui**, James. Dec. 23, 1778. Letter from Bilbao to Arthur Lee. Health; news from America; privateers. ff. (2).
98. **Gardoqui**, Joseph & Sons. Dec. 23, 1778. Letter from Bilbao to Arthur Lee. Supplies for America; privateers. ff. (2). (Imperfect—torn.)
99. [Deane, Silas. Dec. 1778.] Copy of charges against Arthur Lee. ff. (2).
100. **Sarsfield**, —, *Comte de*. Dec. 24, 1778. Note, in French, to Arthur Lee. Ossun; Mrs. Izard. ff. (2).
101. [Berkenhout, —, Dr.]. Dec. 25, 1778. Letter to [Arthur Lee]. Proposal for peace negotiations, in form of a dream. Signed, Semper Eodem; superscribed, "Monsr. Johnstone"; indorsed, "Berkenhout," also, "Received at Chaillot the 2^d day Jan^y 1779. Attest H. Ford, sec'y." ff. (2).
102. **Dumas**, K. W. F. Dec. 18–23, 1778. Letter from the Hague, in French, to the commissioners. Action of the states-general on English complaints and French memoir; Amsterdam; Count Welderen. With copy of letter to Dumas signed, Oldenbarnevelt, dated, Dec. 4, 1778, and copy of reply; capture of Dutch vessel by American privateers. ff. (2). (Imperfect—torn and stained.)
103. **Sarsfield**, —, *Comte de*. Dec. 29, 1778. Letter to Arthur Lee. Ossun. ff. (2).
- Franklin**, Benjamin. Suggestion concerning prizes. Indorsed, in pencil, "B. Franklin's hand writing." ff. (2).
104. **La Rochelle**, *France—Merchants*. Copy of a letter, in French, to Sartine. Convoys for merchant ships. Marked in pencil, "Dec. '78?" ff. (2).
105. **Benoit**, —, *Mlle*. Love letter, in French, to Arthur Lee. With translation. Not dated. ff. (2).
- Adanson**, —, *Mad*. Note, in French, to Arthur Lee. Verses. With translation. Not dated; marked in pencil, Dec. '78. ff. (2).
56. [Sarsfield, —, *Comte de*]. March 1, [1778]. Note in English to Arthur Lee. Appointment of an interview with Ossun. ff. (2).
- This paper belongs on p. 56 of Vol. IV., and was inadvertently omitted from its proper place in the Calendar.

VOL. VI.

1. **Bondfield**, John. Jan. 1, 1779. Letter from Bordeaux to Arthur Lee. Want of news; reimbursement for money advanced to navy officers. ff. (2).
2. [Franklin, Benjamin. Jan. 2, 1779.] Note to [the other commissioners]. Montieu's accounts. With Arthur Lee's reply dated Jan. 2. Montieu, Williams. f. (1).
3. **Grand**, Ferdinand, *the banker*. Jan. 2, 1779. Receipt to Arthur Lee for 22725 livres. f. (1).
- Vergennes**, Charles Gravier, *Comte de*. Jan. 4, 1779. Letter, in French, to Arthur Lee. Berkenhout; acknowledgment of independence a necessary preliminary to treating. f. (1).
- Translation printed, Sparks' Diplomatic correspondence, II. 214.
- [Sarsfield, —, *Comte de*]. Jan. 6, 1779. Letter, in French, to [Arthur Lee]. Prince de Tingry (?); ceremonial visits; Ossun. ff. (2).
4. **Henry**, Patrick. Jan. 9, 1779. Extract from a letter to the delegates of Virginia in congress. Hezekiah Ford. f. (1).
5. **Mannberger**, —, *sword-cutter*. Jan. 10, 1779. Letter from Strasburg, in French, to [Arthur Lee]. Supplies to Virginia. ff. (2).
6. **Chaumont**, Le Ray de. Jan. 12, 1779. Copy of two promissory notes, in French, to Franklin, for 50,000 livres, each dated Jan. 1. With note added by H. Ford, sec'y. Reasons for copying the notes; Williams' accounts ff. (2).
- Bondfield**, John. Jan. 12, 1779. Letter from Bordeaux to Arthur Lee. Ships from Nantes; discord in America; Washington; vessels from Philadelphia; Deane. ff. (2).
7. **Gardoqui**, Joseph & Sons. Jan. 16, 1779. Letter from Bilbao to Arthur Lee. Departure of brig North Star, Capt. Francis Fawson; drafts on commissioners. ff. (2).

8. **Chaumont**, Le Ray *de*. *Jan.* 18, 1779. Note, in French, to M. Siot (?) at Passy. Letter of exchange from Mad. La Fargue (?); Baueroff. ff. (2).
Ross, John. *Jan.* 19, 1779. Letter from Nantes to Arthur Lee. Thomas Morris's papers; William Lee. ff. (2).
9. **Lloyd**, John. *Jan.* 19, 1779. Letter from Nantes to Arthur Lee. Duties in French ports. ff. (2).
Schweighauser, Jean Daniel. *Jan.* 19, 1779. Letter from Nantes, in French, to [Arthur Lee?]. Capt. Meredith; Capt. Niles; Goffingham; Da Costa and co. ff. (2).
10. **Vergennes**, C. G., *Comte de*. *Jan.* 21, 1779. Letter, in French, to Arthur Lee. Thanks for information. With translation by Arthur Lee, and copy of note from Lee to Vergennes, *Jan.* 20, 1779. Departure of provision fleet and escorts for British army in America. ff. (2).
Lloyd, John. *Jan.* 23, 1779. Letter from Nantes to Arthur Lee. Reply to letters. Da Costa. ff. (2).
11. **Franklin**, Benjamin. *Jan.* 24, 1779. Letter to Arthur Lee. Monthieu's accounts; Grand; Deane. With copy of Lee's reply. ff. (2).
Grand, Ferdinand. *Jan.* 29, 1779. Receipt, in French, to Arthur Lee for 80800 livres. ff. (2).
12. **Gardoqui**, James. *Jan.* 30, 1779. Letter from Bilbao to Arthur Lee. Draft on Grand for Ross; remittances; re-imbursments; D'Estaing's fleet; fleets at Cadiz and Ferrol. ff. (2).
Ross, John. *Feb.* 2, 1779. Note from Nantes to Arthur Lee. Request to have a letter forwarded to William Lee. ff. (2).
13. [**Sarsfield**, —, *Comte de*]. *Feb.* 4, 1779. Note, in French, to Arthur Lee. Compliments; note to Franklin. ff. (2).
Gilbank, John. *Feb.* 7, 1779. Letter from Nantes to [Arthur Lee?]. Request for loan of 1000 livres. ff. (2).
14. **Adams**, John. *Feb.* 7, 1779. Letter to Arthur Lee. Request for a copy of the commissioners' letter to Vergennes. With an indorsement by Ford, *March* 20, 1779, stating that it was delivered to him by W. T. Franklin in the presence of Henry Grand. ff. (2).
Bancroft, Edward. *Feb.* 9, 1779. Letter from Chaillot to Arthur Lee. Lee's personal enmity; release of American prisoners. ff. (2).
15. **Commissioners to France**. *Feb.* 10, 1779. Copy of letter to J. D. Schweighauser. Capt. Jones; countess of Selkirk's plate. ff. (2). (Margins torn.)
Printed, but without Lee's signature, Sparks' Diplomatic correspondence, I. 513.
16. **Adams**, John. *Feb.* 11, 1779. Letter to Count Vergennes. Deane's address; vindication of Arthur Lee's character; F. L. Lee, R. H. Lee. ff. (2).
Printed Sparks' Diplomatic correspondence, II. 224; Adams' Works, VII. 79; and with verbal differences in Lee's Life of Arthur Lee, I. 157.
17. **Lee**, Richard Henry. *Feb.* 11, 1779. Letter from Freestonepoint, Va. to [Arthur Lee]. Deane's address; letter by Lafayette; Berkenhout; William Lee; F. L. Lee; Paine's defense of the Lees; D'Estaing; Byron. ff. (2). (Margins worn.)
Many of the names and expressions are in cipher.
18. **Bondfield**, John. *Feb.* 16, 1779. Letter from Bordeaux to Arthur Lee. Commercial intelligence; Robert Morris; Samuel Ingles; Ross; Holker and co.; Deane; D'Estaing. ff. (2). (Imperfect — torn.)
Sarsfield, —, *Comte de*. *Feb.* 16, [1779]. Note, in French, to Arthur Lee. "Defense of Common Sense"; Izard; Rochefoucauld. With seal. ff. (2).
19. —. *Feb.* 17, [1779]. Letter to [Ralph Izard?]. "Common Sense"; Rochefoucauld; [Arthur] Lee. ff. (2).
Vergennes, C. G., *Comte de*. *Feb.* 16, 1779. Copy of letter, in French, to Arthur Lee. Inclosure of letter from Montbarey; payment for supplies to Virginia. With copy of Prince de Montbarey's letter. Indorsed, "True copy" by A. Gillon. With translation of each by Lee. ff. (2).
Translation of both printed, Lee's Life of Arthur Lee, I. 420.
20. **Franklin**, Benjamin. *Feb.* 18, 1779. Note to Arthur Lee. Request for public papers. Indorsed by Lee as delivered to him by W. T. Franklin in the presence of John Adams. ff. (2).
Printed, Sparks' Diplomatic correspondence, II. 230.
—, *Feb.* 18, 1779. Note to Arthur Lee. Resolutions of congress of Sept. 11, Sept. 14, and Oct. 22, 1778. ff. (2).
Printed, Sparks' Diplomatic correspondence, II. 229.
21. **Sarsfield**, —, *Comte de*. List of the Spanish ministry, addressed to Arthur Lee. Count Florida Blanca; Count de Bida; Miguel de Muzguiz; Castijon; Joseph Galvez; Manuel de Roda y Arrieta. Marked in pencil, "20 Feb. 79?" ff. (2).
22. —. *Feb.* 20, 1779. Note, in French, to Arthur Lee. Invitation to Duchess d'Enville's. f. (1).
Livingston, M., *Capt.* *Feb.* 20, 1779. Copy of certificate, dated *April* 11, 1778, to Arthur Lee and Ralph Izard. Knowledge of the treaty in England; Bancroft; Wharton; stock-jobbing. With indorsements by Livingston, *Feb.* 20, 1779. — Duplicate of the same. ff. (2).
23. **Gardoqui**, Joseph & Sons. *Feb.* 20, 1779. Letter from Bilbao to Arthur Lee. Supplies to America; Capts. Allen, Babson, Trash. f. (1).
24. **Lloyd**, John. *Feb.* 23, 1779. Letter from Nantes to Arthur Lee. Departure with Blake; Schweighauser. ff. (2).
Gardoqui, Joseph & Sons. *Feb.* 24, 1779. Letter from Bilbao to Arthur Lee. Supplies to America; Capts. Babson, Trash, Emery. ff. (2).
25. **Sarsfield**, —, *Comte de*. [*Feb.* 24, 1779?] Note, in French, to Arthur Lee. Request for news. Dated, "Jeudi 24 fev." ff. (2).
Thursday was the 24th of February during this epoch only in 1774 and 1780. The days of the week in Sarsfield's notes are evidently erroneous, but the years are probably 1778 or 1779; it is impossible to determine which without further data. Many of them, as this, are indorsed in a recent hand in pencil, "1778?"
- 26, 27. [**Lee**, William]. *Feb.* 25, 1779. Copy of letter from Frankfort on the Main to R. H. Lee. Deane's charges; Schweighauser; Dobrée; Baron Breteuil; agent at St. Petersburg, Copenhagen, Stockholm; Prussian mission. With part of another letter to the same, dated Paris, *March* 25, 1779. Samuel Adams; Deane's charges; Williams; Thos. Morris;

- Limozin, Schweighauser; Bondfield; Franklin; Lloyd; Ross. pp. 8. (Imperfect — last part gone.)
28. **Bondfield**, John. *Feb. 26, 1779.* Letter from Bordeaux to Arthur Lee. Attack on S. Lucie; difficulties of merchant ships. ff. (2).
29. [**Berkenhout**, —, *Dr. Feb. 28, 1779.*] Letter addressed to "Monsr. Lotson." Author of "Montcalm's Letters." British irresolution. ff. (2).
- This was probably written to Arthur Lee. The allusions to political events are so guarded that the meaning is not at all clear.
30. —. *Feb. 28, 1779.* Letter addressed to "Monsr. Johnstone" [Arthur Lee]. Franklin; negotiation for peace. With copy of answer and indorsement by Lee of same date. Jennings; Bancroft. With indorsement by Ford. ff. (2).
- Rosignan**, Sigard, *Marq. de. Feb. 28, 1779.* Letter from Casal, in French, to Arthur Lee. Loss of letters; desire for news. Indorsed, "No 3." ff. (2).
- Translation printed, Lee's Life of Arthur Lee, II. 366.
31. **Bondfield**, John. *March 6, 1779.* Letter from Bordeaux to Arthur Lee. Deane's charges; commissioners; Franklin; Lafayette; Washington. ff. (2).
- Gruve** (?), —. *March 6, 1779.* Note, in French, to Arthur Lee. News from fleets; D'Estaing; Byron; De Grasse. f. (1).
32. [**Jones**, John Paul]? *March 10, 1779.* Copy of letter apparently in reference to the subjects mentioned in Livingston's letter on p. 33. Publication of news. Not addressed; indorsed as true copy by T. Smith. f. (1).
- Bondfield**, John. *March 12, 1779.* Letter from Bordeaux to Arthur Lee. Supplies for Virginia; D'Acosta; Haywood; Montieu; Beaumarchais; Gillon. ff. (2).
33. **Livingston**, M., *Capt. March 13, 1779.* Copy of letter from Nantes to John Paul Jones. Bancroft; Wharton. — Copy of Capt. Jones' reply. Each is indorsed by Livingston as a true copy. f. (1).
- In the same hand as the first paper on p. 32.
- Franklin**, Benjamin. *March 13, 1779.* Letter to Arthur Lee. Williams' accounts; Schweighauser. ff. (2).
34. **Livingston**, M., *Capt. March 15, 1779.* Letter from Nantes to Arthur Lee. Bancroft. ff. (2).
35. **Lee**, Arthur. *March 17, 1779.* Note in French, on the banker, for 25000 livres in favor of Joseph Gardoqui & Sons. f. (1).
- Bondfield**, John. *March 18, 1779.* Letter from Bordeaux to Arthur Lee. Commercial business; Wm. Lee; Deane's charges. ff. (2).
36. **Grand**, Ferdinand. *March 20, 1779.* Note, in French, to Arthur Lee. Acceptance of his note for 25000 livres (see above, p. 35). f. (1).
- Vergennes**, C. G., *Comte de. March, 20, 1779.* Copy of letter, in French, to Arthur Lee. Payment by Virginia for supplies; inclosure of letter from Prince de Montbarey. With copy of Prince de Montbarey's letter dated March 16, relating thereto, and a translation of each by Arthur Lee. Indorsed as "True copy" by A. Gillon. ff. (2).
- See also before, p. 19. — Translation of both printed, Lee's Life of Arthur Lee, I. 420, 421.
37. **Letter**, *March 21, 1779,* in cipher, from Philadelphia. Indorsed, "Received from the marchioness of Fayette July 8, 1779." ff. (2).
- Lee**, Arthur. *March 22, 1779.* Copy of letter to Count Vergennes. Recall of munitions promised to Virginia; remonstrance. Indorsed, "Letter Book N. 6. p. 4th True copy compar'd A. Gillon." ff. (2).
- See also pp. 19, 36. — Printed, Lee's Life of Arthur Lee, I. 421.
38. **Sarsfield**, —, *Comte de. March 25, [1779?].* Note to Arthur Lee. Invitation to dinner. ff. (2).
- Montbarey**, Alexandre Marie Léonor DE SAINT-MAURIS, *Prince and Comte de, Minister of War. March 26, 1779.* Copy of note, in French, to Count Vergennes. Supplies for Virginia; Arthur Lee. With translation. Indorsed, "No. 5." ff. (2). (Imperfect — torn).
- See also pp. 19, 36, 37. — Translation printed, Lee's Life of Arthur Lee, I. 423, where the date is given as May.
39. **Lee**, William. *March 26, 1779.* Letter from Paris to F. L. Lee. Private pecuniary troubles; importance of unanimity in America; British plans; Franklin; Silas Deane, Carmichael; Lord Bute; "Hortalez & co." pp. 4.
- Schweighauser**, J. D. *March 27, 1779.* Letter from Nantes, in French, to [Arthur Lee?]. Shipment of goods for America; Williams' accounts; Franklin. ff. (2).
40. **Vergennes**, C. G., *Comte de. March 27, 1779.* Letter, in French, to Arthur Lee. Supplies for Virginia; Montbarey's letter. With translation. Indorsed, "No 4." ff. (2).
- See also pp. 19, 36-38. — Translation printed, Lee's Life of Arthur Lee, I. 423, where the date is given May 21.
- Copy of this and of that on p. 37, with the dates, "mai." Also with translation. Certified by A. Gillon. ff. (2).
41. **Gerard**, Conrad Alexandre. *March 31, 1779.* Copy of letter from Philadelphia to Congress. Departure to France; power of ministers. Translated by Gouverneur Morris. Indorsed, "Original upon the files of congress." f. (1). (Imperfect — torn.)
- Printed, Sparks' Diplomatic correspondence, X. 275-.
42. **Livingston**, M., *Capt. April 1, 1779.* Letter from Nantes to Arthur Lee. Bancroft; Ross ff. (2).
- Lloyd**, John. *April 3, 1779.* Copy of letter from "On board the Belle Poule, Brest Road," to Livingston. Certificate from Champion; Izard; arrival of ships; convoy under La Motte-Picquet. Indorsed as true copy by Livingston; also, N. 2. f. (1).
- Note**, in cipher, *April 4, 1779.* f. (1).
43. **Ross**, John. *April 6, 1779.* Note to Arthur Lee. Inquiry for a letter sent to William Lee. ff. (2).
- Note to Arthur Lee. Declination of invitation to dinner. Marked, "About 6 April 79"; dated, Sunday Evening. ff. (2).
44. **Penn**, John, **Hill**, Whitmell, and **Burke**, Thomas. *April 8, 1779.* Copy of letter from Philadelphia, to Henry Laurens. Remonstrance; votes of South Carolina delegates on the fishery claim. Indorsed by Henry Laurens, "Not examined but I believe there is no error." ff. (2).

45. **Newman, Henry.** *April 9, 1779.* Letter from Philadelphia to William Carmichael. Carmichael's opinion of Deane and Lee; Lloyd, Stevenson, Thornton. Indorsed, "Inclosed in Mr. Carmichael's information delivered May 3, 1779." ff. (2).
- Sarsfield, —, Comte de.** [*April*] 11, [1779]. Note to Arthur Lee. ff. (2).
- This is dated only, "Sunday 11th" and if written this year, as is probable from its being in English, might have been in April or July.
- Lloyd, John.** *April 15, 1779.* Letter, dated "On board the Belle Poule, Brest Road," to Arthur Lee. Care of letters; Deane, Bancroft; Izard. ff. (2).
46. **Necker, Jacques.** *April 15, 1779.* Copy of letter, in French, from Paris, to Arthur Lee. Supplies for Virginia; refusal to exempt from duties. With translation by Lee. ff. (2).
- Translation printed, Lee's Life of Arthur Lee, I. 423.
47. **Lee, Arthur.** *April 15, 1779.* Copy of letter to M. Necker. Exemption from duty of supplies to Virginia; necessity for the request. With copy of Necker's reply in French, dated *April 16.* Request granted. Indorsed as true copy by A. Gillon, also, No. 4. With translation by Lee. ff. (2).
- Lee's and translation of Necker's printed, Lee's Life of Arthur Lee, I. 424, 425.
48. [**Lee, Francis Lightfoot.** *April 22, 1779.* Letter from Annapolis to [Arthur Lee]. Deane; William Lee. f. (1).
- Letter,** *April 22, 1779,* from London, to Hezekiah Ford. Slander of a mutual friend; family plans. Unsigned. ff. (2).
49. **Moustier, Eléonore François Élie, Comte and Marquis de.** *April 23, 1779.* Letter from Colblentz to [Arthur Lee?]. Ministers plenipotentiary; Franklin; [Deane, Adams]; sympathy and encouragement for America; D'Éstaing; future of American states; Greece; Cromwell; character of rulers. ff. (4).
- Printed, Lee's Life of Arthur Lee, II. 372.
- Ford, Hezekiah.** *April 23, 1779.* Receipt to Arthur Lee for 696 livres, 6 sols, tournois. With another receipt for 1200 livres. f. (1). (Imperfect — torn.)
50. **Franklin, Benjamin.** *April 24, 1779.* Two copies of letters to Capt. Landais. Exchange of prisoners; cruise of the Alliance; orders for sailing; Schweighauser; Adams. ff. (2). (One copy imperfect — torn.)
51. **Moustier, E. F. É., Comte and Marquis de.** [*April*?] 25, [1779?]. Note, in French, to Arthur Lee. Visit of American ladies to the royal houses; offer of service. Marked in pencil in later hand, "25 April, '79"; dated only, "25." ff. (2).
52. **Lee, Richard Henry.** *April 26, 1779.* Letter from Philadelphia to F. L. Lee. Death of Col. Taylor; success of fleet from Boston; recall of Dr. Franklin; foreign policy; treatment of Arthur Lee; Virginia; British movements. ff. (2).
53. **Franklin, Benjamin.** *April 28, July 28, Oct. 15, 1779.* Copy of notes to Capt. Landais. Orders for cruise under Capt. Jones; Chaumont; charges of disobedience; orders to report at Paris; prizes. With copy of Capt. Landais's answer. Necessary delay; illness of Capt. Cottineau; need of money. With copy also of Dr. Franklin's orders to Capt. Jones, *June 30, 1779.* All certified by Ludwell Lee. ff. (2). (Imperfect — torn.)
54. [**Lovell, James**?] *April 29, 1779.* Copy of letter from Philadelphia to Benjamin Franklin. Deane; Lee; deliberations of congress. Signed, J. L. f. (1).
55. **Faca, William, and Drayton, William Henry.** *April 30, 1779.* Copy of memorial to Congress. Arthur Lee's unpopularity and unfitness for position of minister at Madrid. ff. (2).
56. **Lamoignon de Malesherbes, Chrétien Guillaume de.** *April 30, 1779.* Note, in French to Arthur Lee. Invitation to dinner. f. (1).
- Nicholson, Samuel, Capt.** *May 2, 1779.* Copy of letter from Philadelphia to William Carmichael. Opinion of Lee, Deane, Franklin; Stevenson; Capt. Hill; Thornton; Lloyd; Ross. Indorsed, "Inclosed in Mr. Carmichael's information delivered in May 3, 1779." ff. (2).
57. —. Copy of the same. Indorsed, No. 4, f. (1).
- 58, 59. **Lee, Arthur.** *May 2, 1779.* Copy of letter to Benjamin Franklin. Request for convoy to protect Virginia supplies. Copy of answer, dated May 3, giving reason for refusal, and copy of Lee's reply, dated May 6. Repetition of request; Adams; La Motte-Picquet; Sartine; Izard. Indorsed as true copies by A. Gillon. With note added by Ludwell Lee. ff. (3).
- Printed, Lee's Life of Arthur Lee, I. 426, 427.
- 60, 61. **Carmichael, William.** *May 3, 1779.* Copy of letter to congress. Charges against Arthur Lee; Grand brothers; Garnier; Shelburne; D'Estaing; Col. Nicholas Rogers; Lauregais; Vergennes; Gerard; Lafayette; D'Aranda; Bancroft; Sayce; Lord Camden; Franklin; Izard, Berkenhout; Ridley; Chaumont; Beaumarchais; Holker; Moylan; Ross; Williams; Jones; Nicholson; Thornton. ff. (4).
62. —. Another copy of a portion of the same. ff. (2).
63. **Bondfield, John.** *May 8, 1779.* Letter from Bordeaux to Arthur Lee. Arrival of the Mercer, Capt. Robinson; R. H. Lee; La Motte-Picquet; news from the fleet with Virginia supplies; capture of the *Legère* with supplies of clothing for America; duel between Henry Laurens and John Penn; Deane; Izard. ff. (2).
64. **Sarsfield, —, Comte de.** *May 8, [1779].* Note, in English and French, to Arthur Lee. Appointment with Malesherbes. ff. (2).
- . *May 15, [1779].* Note to Arthur Lee. Abbé Nolin; treaty at Teschen. ff. (2).
- Lee, William.** *May 20, 1779.* Letter from Frankfort, Germany, to [F. L. Lee]. Intended resignation of R. H. Lee; personal sacrifices; plans of Holland, Russia, Germany. ff. (2).
65. **Bondfield, John.** *May 22, 1779.* Letter from Bordeaux to Arthur Lee. Arrival of sloop from Maryland; Capt. Robinson; Virginia's indebtedness; Beaumarchais; William Lee. ff. (2).
- [**Lee, Arthur.**] *May 22, 1779.* Portion of letter from Paris to Carter Braxton. Aspersions on the Lees; letter to Ross. ff. (2). (Imperfect — latter part gone.)

66. [Lee, Richard Henry]. *May 23, 1779*. Letter in cipher to [Arthur Lee?]. Deane's attack on the Lees. ff. (2).
67. Sarsfield, —, *Comte de*. [May] 24, [1779]. Note to Arthur Lee. Spain's declaration. ff. (2).
 —. Note in English to Arthur Lee. "Spain ready to declare"; visit to the gun-makers. Dated, "friday morning." ff. (2).
 —. *May 25, [1779]*. Note to Arthur Lee. Abbé Nolin; appointment at Luzerne's; Ossun. ff. (2).
68. Franklin, Benjamin. *May 26, 31, Oct. 4, 17, 28, March 4, 1779*. Extracts from letters to Congress. Jones's command; the Alliance; Necker; borrowing money in Holland; assertion by the Howes, Cornwallis, Grey, Col. Montresor, and Capt. Hammond that conquest of America is impracticable; Deane and Lee; Neufville and co.; Arthur Lee's application for money; Montieu; Beaumarchais; supplies; quarrel of Jones and Landais. Indorsed. No. 2. ff. (2).
 The letters of *May 26, Oct. 4 and 17,* are printed in full in Sparks' Diplomatic correspondence, III. and that of *May 26,* also in Sparks' Franklin, VIII.
- Gillon, —, *Commodore*. Note to [Arthur] Lee. Appointment; Capts. Joiner, Robeson, Kalteirer, Spencer. Dated, "Sunday Evening." ff. (2).
69. Jennings, Edmund. *May 28, 1779*. Receipt to Arthur Lee for £66s., for Edward Bridgen. f. (1).
- Sarsfield, —, *Comte de*. *May 30, 1779*. Note to Arthur Lee. Spain's declaration. ff. (2).
70. Gillon, A. Letter to Arthur Lee. Thanks for attention; Capt. Joiner, Luzerne. Dated "Wednesday 10 o'clock." ff. (2).
 Lee, Arthur. *June 6, 1779*. Copy of letter to Count Florida Blanca. Inclosure of memorial to Spain. With copy of note in French to Count D'Aranda, dated *June 7, 1779,* and copy of the memorial, dated *June 27, 1779.* ff. (2). (Imperfect — latter part gone.)
 See also IV. 128. — Printed, with translation of note to D'Aranda, Sparks' Diplomatic correspondence, II. 246, 247; Lee's Life of Arthur Lee, I. 277; memorial printed in Sparks' Diplomatic correspondence, II. 252; and with date of *June 6,* in Lee's Life of Arthur Lee, I. 277.
71. Adams, John. *June 9, 1779*. Copy of letter from L'Orient to Arthur Lee. Receipt of letters; Luzerne; Ford; Paine; declaration of northern powers against England; accusations against Lee; correspondence with Vergennes; Lafayette; situation in America. f. (1).
 Printed Lee's Life of Arthur Lee, I. 159.
- Austin, Jonathan Loring. *June 10, 1779*. Letter from Boston to Arthur Lee. Arrival in America; introduction to Lee's brother at Philadelphia; papers sent by Capt. Thompson to Adams; offer of service. — *July 12, 1779*. Another letter to the same. Gen. Moultrie's repulse of British at Charleston, S. C. ff. (2).
72. [Lovell, James]. *June 13, 1779*. Letter from Philadelphia to Arthur Lee. Deane's charges against Lee; Burke, Laurens, Gerry, S. Adams, Holton, Ellery, Wm. Lee, Izard, R. H. Lee; change in committee of foreign affairs; J. Adams. Signed, J. L.; indorsed "copy" though apparently in Lovell's handwriting; also indorsed on outside, "Received thus from Mr Adams the 11th Feby. 1780, i. e. with the wax fingered not open'd. Mr. Adams had it from Dr. Franklin." ff. (2).
73. Bondfield, John. *June 22, 1779*. Letter from Bordeaux to Arthur Lee. News of ships; union of Spanish and French fleets; Ford; financial arrangements. ff. (2).
74. [Lee, Arthur]. *June 25, 1779*. Copy of note to Count Florida Blanca, with the memorial to Spain given on p. 70. Need of additional naval force to aid America. With copy of another letter dated *Dec. 16, 1779.* D'Estaing. On the back is a copy of another letter to some lord. f. (1). (Imperfect — torn.)
 See also p. 70. — Printed, with additional sentence, in Sparks' Diplomatic correspondence, II. 251; the letter of *Dec. 16* in Lee's Life of Arthur Lee, I. 278.
75. Bondfield, John. *June 26, 1779*. Letter from Bordeaux to Arthur Lee. News through Capt. John Green, of Philadelphia; Carmichael; R. H. Lee; R. Morris; position of British and American armies; Gerard, Chaumont, Holker. ff. (2).
 Ventades, —. [June, 1779?]. Note to Count Sarsfield. Spanish declaration; Almodovar. Not dated. ff. (2).
 The date is surmised from the date of the declaration, which was *June 26, 1779.*
76. France — *King's Council*. *June 29, 1779*. Enforcement of order of Sept. 23, 1778, about prizes; Izard. ff. (2).
77. Vaughan, —. *July 3, 1779*. Extract from a letter to Arthur Lee. Inquiries concerning property of a minor. ff. (2).
 Franklin, Benjamin. *July 5, 1779*. Copy of letter to Com. Gillon. Aid for Carolina; squadron under Joyner; "Alliance"; loans. Certified as true copy by John Joyner. f. (1).
78. Pringle, John Julius. *July 7, 1779*. Letter from Amsterdam to Arthur Lee. Inclosure from Temple; Grand; J. Adams; Vergennes, Wm. Stockton; Izard. f. (1).
 [Gardoqui, James]. *July 7, 1779*. Letter from Bilbao to Arthur Lee. Spain's declaration; Digges; Spanish seamen. Signed J. G. ff. (2).
79. Pringle, J. J. *July 12, 1779*. Letter from Amsterdam to Arthur Lee. Views on the public situation; public virtue; La Motte-Picquet; J. Adams; Temple; Beaumarchais; Stockton; Izard. ff. 3. (Imperfect — slightly torn.)
 Other people are referred to by numbers.
80. Rosignan, Sigard, *Marquis de*. *July 15, 1779*. Letter, in French, from St. Maurice to Arthur Lee. Illness; views on public affairs. ff. (2).
 Printed, Lee's Life of Arthur Lee, II. 367.
81. Continental Congress, Second — *Committee of Foreign Affairs*. *July 16, 1779*. Letter from Philadelphia to Arthur Lee. News of British plans; Gen. Washington; Gov. Trumbull; destruction of Fairfield; want of news from Spain; Gerard; Congress; Deane and Lee. Signed, "James Lovell, for the com^{tee}"; indorsed, "No 1." ff. (2).
 Printed, Sparks' Diplomatic correspondence, II. 253.
82. —. Another copy of the same. ff. (2).
83. —. The same. Indorsed, "3 plicate." f. (1).
84. Virginia Gazette. *July 17, 1779*. Extract of a letter from Philadelphia, dated *June 24, 1779.* "Junto" in congress; Deane's narrative; foreign loan; Arthur Lee; France and Spain; terms of peace; New England delegates; commissioners at Paris; [Thornton; Ford]; Gov. Johnstone; Lee's recall. Not signed. ff. (2).

85. **Bondfield, John.** *July 17, 1779.* Letter from Bordeaux to Arthur Lee. News from America; Green; Henry Laurens; Deane; Gen. Arnold; Gouverneur Morris; [Carmichael]; desire to be of service in Spain. ff. (2).
- Continental Congress, Second—Committee of Foreign Affairs.** *July 17, 1779.* Letter from Philadelphia to William Lee. Recall of commission to Vienna and Berlin; reference to papers in hands of Arthur Lee and Dr. Franklin. Signed, "James Lovell for the com^{tee}"; indorsed, "3 plicate." ff. (2).
- Printed, Sparks' Diplomatic correspondence, II. 350.
86. 87. [**Lovell, James**]. *July 17, 1779.* Letter from Philadelphia to Arthur Lee. Failure in sending letters; Bingham; Franklin; John Adams; journals of congress; recall of William Lee and Izard; R. H. Lee's resignation from congress; attempts to injure Arthur Lee's reputation; Deane; Laurens; S. Adams; Whitlock; uselessness of the committee; F. L. Lee; Lee's letters to Shelburne, Jennings; Bonx. Signed, J. L. pp. (6).
88. **Continental Congress, Second—Committee of Foreign Affairs.** Another copy of the letter on p. 85. Indorsed, "3 plicate," with P. S. added. f. (1).
- This P. S. is not printed in Sparks' Diplomatic correspondence.
89. **Moustier, E. F. É., Comte and Marquis de.** *July 19, 1779.* Letter from Coblenz to [Arthur Lee]. Spanish declaration; Deane's attack on Lee. ff. (2).
- Printed with date July 29, and verbal differences in Lee's Life of Arthur Lee, II. 375.
90. **Franklin, Benjamin.** *July 21, 1779.* Note to Arthur Lee. Inclosure of letter. ff. (2).
- Pringle, J. J.** *July 22, 1779.* Letter from Amsterdam to Arthur Lee. Temple; Sayre; change in commissions; Franklin; news of victory in Carolina; Stockton. ff. (2).
91. **Harris, John.** *July 23, 1779.* Letter from Nantes to Arthur Lee. Distress of Fortton prisoners arrived at France in the cartel. ff. (2).
92. **B., J.** *July 24, 1779.* Letter from Bordeaux to Arthur Lee. Debt; the Alliance; Capt. J. P. Jones; Chaumont; Gourlade; Moylan. ff. (2).
93. **Champion, Richard.** *July 25, 1779.* Copy of letter to Moses Livingstone. Wharton; Digges; Izard; Lloyd. f. (1).
- Izard, Ralph.** *July 26, 1779.* Letter from St. Amand to Arthur Lee. Decision of court on restoring Izard's property; Maurepas; Prevost. ff. (2).
- Printed, Lee's Life of Arthur Lee, II. 78.
94. [**Lovell, James**]. *Aug. 6, 1779.* Letter from Philadelphia to Arthur Lee. Receipt of communications; "Henry, Francis and S. Adams"; Laurens; Whitelock; condition of committee for foreign affairs; Deane; Franklin; commissioners in Europe; Izard; William Lee; Wayne; D'Estaing. Indorsed, "copy (private)", also, No. 3; signed, J. L. ff. (2).
- [—]. Another copy of the last sentences. Wayne; D'Estaing; Deane. f. (1).
95. [—]. *Aug. 6, 1779.* Letter from Philadelphia to Benjamin Franklin. Receipt of letters; Dumas; Deane; Lee. Signed, J. L.; indorsed, "(copy) private." f. (1).
96. **Continental Congress, Second.** *Aug. 6, 1779.* Extracts from minutes. Directions to commissioners and commercial agents about accounts; appointment of Joshua Johnson as examiner. Signed, Chas. Thomson sec'y. f. (1).
- See Journals of congress, II. 308, 373.
97. —. The same, with additional resolutions. Salaries of commissioners; accounts. Signed, James Lovell. f. (1).
- Found inclosed in the letter of Oct. 14, from Lovell to A. Lee. (p. 123).— See Journals of congress, II. 308.
98. —. Copy of the same. f. (1).
99. —. Another copy of the same. f. (1).
100. **Blanca, Florida, Count.** *Aug. 6, 1779.* Letter, in Spanish, to Arthur Lee. Acknowledgment of letters; relations of Spain and England. With translation. ff. (2). (Imperfect—torn).
- Translation printed, Sparks' Diplomatic correspondence, II. 254, and without date in Lee's Life of Arthur Lee, I. 279.
101. [**Lovell, James**]. *Aug. 6, 1779.* Original of the letter on p. 94. Indorsed, private; signed, J. L. ff. (2).
- Izard, Ralph.** *Aug. 8, 1779.* Letter from St. Amand to [Arthur Lee]. Ford; Prevost's defeat; Charleston; [William Lee]. ff. (2).
- Printed, Lee's Life of Arthur Lee, II. 78.
102. **Franklin, Benjamin.** *Aug. 8, 1779.* Copy of certificate to committee of congress. Ross's accounts; Wharton, Bancroft. f. (1).
103. **Pringle, J. J.** *Aug. 16, 1779.* Letter from Amsterdam to [Arthur Lee?]. William Temple; Franklin; St. Eustatia; Charleston; Gen. Williamson; William Craig; Davidson; Pulaski; Stockton; Pollard; [William Lee]; Petrie; Deane; Neufville; Sayre; Dumas. ff. (2).
- Sarsfield, —, Comte de.** *Aug. 19, 1779.* Note, in French and English, to Arthur Lee. Inquiries about lodging; barony of Quintin. ff. (2).
104. **Pringle, J. J.** *Aug. 19, 1779.* Letter from Amsterdam to Arthur Lee. Virginia politics; Hall; Braxton; Jefferson; Nelson; Page; [F. L. Lee; R. H. Lee]; Henry; Deane. ff. (2).
- [**Lee, Arthur**]. *Aug. 21, 1779.* Letter to R. H. Lee. Fleet for invading England; Lafayette; British fleets; uncertainty about recall; Izard; William Lee; Ford; action of northern powers; paper money; Carolina. Not signed. ff. (2).
105. [**Jennings, Edmund**]. *Aug. 22, 1779.* Letter to Arthur Lee. [William Lee]; Bridgen; Lee's recall; Izard; Grand. Signed, J. Clement. ff. (2).
- Bondfield, John.** *Aug. 24, 1779.* Letter from Bordeaux to Arthur Lee. Financial troubles; La Motte-Picquet; Charleston; Prevost; Ross; Gillon; Carmichael; Franklin; Chaumont; Jones. ff. (2).
106. [**Izard, Ralph**]. *Sept. 1, 1779.* Letter from St. Amand to [Arthur Lee]. Naval movements; Braxton; Pringle; Bondfield; Deane; health. Not signed. ff. (2).
- Printed, Lee's Life of Arthur Lee, II. 79.
- [**Jennings, Edmund**]. *Sept. 8, 1779.* Letter from Boulogne to Arthur Lee. Naval movements; disposition of congress; Izard. Signed, J. Clement. ff. (2).
107. **Grand, Ferdinand.** *Sept. 11, 1779.* Letter to Arthur Lee. Accounts. Signed, "for Mr. Grand, Hy. Grand." ff. (2).

- Franklin, Benjamin.** *Sept. 12, 1779.* Note to Arthur Lee. Journals. ff. (2).
108. [**Izard, Ralph.**] *Sept. 12, 1779.* Letter from St. Amand to Arthur Lee. D'Estaing; Byron; Granada; return to Paris. Signed, R. I. ff. (2). Printed, Lee's Life of Arthur Lee, II. 8r.
- Jenings, Edmund.** *Sept. 15, 1779.* Letter from Boulogne to Arthur Lee. Tour into Flanders; payment of pension. ff. (2).
109. **Warren, James.** *Sept. 17, 1779.* Letter from Boston to Arthur Lee. Opening of a letter; Lovell; expressions of esteem. ff. (2). Printed, Lee's Life of Arthur Lee, II. 27r.
- 110, 111. **Lovell, James.** *Sept. 17, 1779.* Letter from Philadelphia to Arthur Lee. Letters to and from France; R. H. Lee; F. L. Lee; Laurens; Whipple; John Adams; Vergennes; Sergeant; Ingersoll; Warren; Schweighauser; Luzerne; S. Adams; Ford; Spain; Virginia supplies; Dumas; Franklin; Harrison; Jay; Reed; cypher; William Lee; Izard. ff. (4).
112. **Sarsfield, —, Comte de.** *Sept. 19, 1779.* Letter, in French, to Arthur Lee. The Sensible; army; Izard. With seal. ff. (2).
113. [**Lovell, James.**] *Sept. 21, 1779.* Letter from Philadelphia to [Arthur Lee?]. Gerard; new appointment of commissioners; changes in congress; Jenings; Ingersoll; Sergeant; S. Adams, John Adams; Ellery; constitutional convention. Signed, J. L. f. (1).
114. [—]. *Sept. 22, 1779.* Letter to Arthur Lee. Despatches to Dr. Franklin; seizure of bearer of letters; decision on Spanish affairs; Luzerne; Vergennes' opinion of Lee and John Adams. Indorsed, private. f. (1).
115. **Jenings, Edmund.** *Sept. 25, 1779.* Letter to Arthur Lee. Tour to Flanders; negotiation; suspension of arms; Lloyd. ff. (2). [**Lovell, James.** *Sept. 27 (?) , 1779.*] Note to [Arthur Lee]. Appointment of minister plenipotentiary; Jay; Carmichael; Deane. Signed, "A Friend to your Merits"; not directed; marked in pencil, "1779, 27 Sept." f. (1).
116. **Sarsfield, —, Comte de.** [Oct. or Sept. 2, 1779?]. Note, in English, to [Arthur Lee?]. Return of papers; visit to Paris. Not superscribed. ff. (2).
The date is not very legible, 7ber and 8ber being written over each other, and the year being apparently 1775; the paper is marked in a later hand, in pencil, 2 Oct. 78. If to Arthur Lee the year is probably 1779, and the fact of its being in English would seem to place it thus late, as only the count's later letters were in English.
117. [**Jenings, Edmund.**] *Oct. 3, 1779.* Letter from Brussels to Arthur Lee. Retirement of members of congress; Carol; commissioners. Signed, J. Clement. ff. (2). (Imperfect — torn; memorandum on back.)
Jones, John Paul. *Oct. 3, 1779.* Extract of a letter from Texel to Goulard & Moylan. Engagement with the enemy; Alliance; Bon Homme Richard. — **Cottineau.** *Oct. 4, 1779.* Extract of a letter from Texel in French. Account of the same engagement; list of prizes. ff. (2).
118. **Harris, John.** *Oct. 4, 1779.* Letter from L'Orient to Arthur Lee. Thanks of recommendation; Gillon. ff. (2).
Franklin, Benjamin. *Oct. 4, 1779.* Extract from letter to congress. Bills of exchange; loans. — *March 4, 1780.* Disposition of French court; supplies for America; Ross; Johnson; Deane; Lee. — *May 26, 1779.* Commissions to strangers. f. (1).
The full letter from which these extracts are taken is printed in Sparks' Diplomatic correspondence, II.
119. **Jenings, Edmund.** *Oct. 6, 1779.* Note from Brussels to Arthur Lee. Complaints against nephew. ff. (2). (Imperfect — torn.)
Heredia, — de, Secretary of the Spanish Embassy. [Oct. 6, 1779?]. Letter, in French, to Arthur Lee. Rodney; English and Spanish vessels. Not dated; marked in pencil in a later hand, "6 Oct. '79?". ff. (2).
120. —. *Oct. 11, 1779.* Note, in French, to Arthur Lee. Appointment. f. (1).
[**Izard, Ralph.** *Oct. 12, 1779?*] Note to [Arthur Lee?]. Departure of Gerard; letter. Signed, R. I.; not superscribed; dated, Wednesday morning; marked in pencil in a later hand, "11 Oct. '79?"; indorsed, "Gerard's going." f. (1). (Imperfect — torn.)
If this was written about Oct. 11, '79 Wednesday fell on the 12th; there is nothing in the letter to guide a surmise.
121. [**Lee, R. H.?**] *Oct. 12, 1779.* Letter from Virginia to Arthur Lee. Controversy with Deane; Whipple; S. Adams; J. Adams; Mercer; Fitzhugh; Flemming; Griffen; William Lee; Izard. Signed and mostly written in cipher; only the P. S. appears to be in R. H. Lee's hand; indorsed, No. 4. ff. (2).
122. **Continental Congress, Second.** *Oct. 13, 1779.* Extract from the minutes. Lee's recall; appointment of Jay. Signed, James Lovell. f. (1). See Journals of congress, V. 383.
123. [**Lovell, James.**] *Oct. 14, 1779.* Letter to Arthur Lee. Bondfield; letters; Spanish commission; Jay; Deane's charges; Mercer; Gerard, Schweighauser; Shippen. Indorsed, "private"; signed, J. L. ff. (2).
124. [—]. *Oct. 14, 1779.* Letter to Arthur Lee. Spain; Jay; Bondfield; Deane; Mercer; Gerard; Schweighauser. Indorsed, "private. Duplicate." ff. (2).
In wording different, in substance duplicate of the preceding letter (p. 123).
125. [**Bondfield, John.**] *Oct. 16, 1779.* Letter from Bordeaux to Arthur Lee. Chaumont; Franklin; detention of goods and despatches for America. Not signed. ff. (2).
[**Jenings, Edmund.**] *Oct. 17, 1779.* Letter to Arthur Lee. [Nephew John]; Mercer; Mrs. Izard. ff. (2). (Imperfect — torn.)
126. [**Benoit, Mlle.**] Letter, in French, to Arthur Lee. Expressions of love. Not signed; dated only Monday. With translation. Marked in pencil in a later hand, "17 Oct. 79?". ff. (4).
127. [—]. Letter, in French, to Arthur Lee. Dated only Friday; not signed. With translation. Indorsed, "Mlle. Benoit." ff. (2).
[—]. Another letter to Arthur Lee. With translation. ff. (2).
128. [**Sarsfield, —, Comte de.**] *Oct. 22, 1779.* Letter from Rennes, in French, to Arthur Lee. Departure of Americans; D'Estaing; return to Paris. ff. (2). (Imperfect — torn.)
[—]. *Oct. 24, 1779.* Letter from Chambière near Rennes, in French, to Arthur Lee. Lee's reputation; departure; Mrs. Izard. ff. (2). (Imperfect — torn.)
129. [—]. Two letters from Chambière, in French, to Arthur Lee. Advice; obscure references;

- D'Estaing. ff. (4). (Imperfect—torn; date gone.)
130. **Jenings**, Edmund. *Oct. 25, 1779*. Letter to Arthur Lee. Nephew; Genet; re-publication of article from Remembrancer; Deane; fall of English stocks. ff. (2). (Imperfect—torn.)
[Lee, Arthur]. *Nov. 7, 1779*. Letter to F. L. Lee. Resignation from congress; settlement for Virginia supplies; events of the campaign; D'Estaing; Spanish mission; recall. Not signed. ff. (2).
131. **Rosigau**, Sigard, *Marquis de. Nov. 14, 1779*. Letter from Turin, in French, to [Arthur Lee?]. Fleets; D'Estaing; character of certain men. Not superscribed; indorsed, "No 7." ff. (2).
Bondfield, John. *Nov. 20, 1779*. Letter from Bordeaux to Arthur Lee. Detention of packet; Chaumont; Franklin; Virginia; South Carolina; Holland; Landais; Jones; Jamaica; D'Estaing; Spain; plan for packets; Izard. ff. (2). (Imperfect—torn.)
132. **Gillon**, Alexander, *Commodore. Dec. 8, 1779*. Letter from Frankfurt to Arthur Lee. Report of attempt to buy ships and military stores. ff. (2).
Many references in cipher.
Bondfield, John. *Dec. 11, 1779*. Letter from Bordeaux to Arthur Lee. Changes among commissioners; Jay, William Lee, Livingston, Izard, Carmichael, Penet; Ross; Delap; Deane; Gillon; R. Morris; Holker. ff. (2).
133. —. *Dec. 13, 1779*. Letter from Bordeaux to Arthur Lee. News from Georgia; Americans jealous of France; Washington; Rhode Island; Sullivan; D'Estaing; Savannah; John Adams; Franklin; Spain and Portugal; Jones; Amsterdam. ff. (2).
134. **Braxton**, Carter. *Dec. 16, 1779*. Copy of letter from Williamsburg, Va. to Capt. Cunningham. Directions for a privateering cruise; Phripp; Willing & Morris. Indorsed as true copy, "Att. Ezek. Price." ff. (2).
[Jenings, Edmund]. *Dec. 22, 1779*. Letter to Arthur Lee. Sentiments of British cabinet; independence of America; Lord Chatham; Jay; John Adams; Lawrence. Signed, J. Clareville. ff. (2). (Imperfect—torn.)
135. **Izard**, Ralph. *Dec. 23, 1779*. Letter from Amsterdam to [Arthur Lee?]. Savannah news; D'Estaing; Prevost; loan of money; plans in America. ff. (2). (Imperfect—torn.)
Printed, Lee's Life of Arthur Lee, II. 81.
136. **Schweighauser**, J. D. *Dec. 30, 1779*. Letter from Nantes to Arthur Lee. Disbursements for Virginia; delivery of plate to Capt. Jones. Franklin; Cortentine. f. (1). (Imperfect—stained and torn.)
2. **Vergennes**, Charles Gravier, *Comte de. Jan. 9, 1780*. Letter, in French, to Arthur Lee. Leave of the French court. With English translation. ff. (2).
3. **Lee**, William. *Jan. 20, 1780*. Letter from Brussels to Arthur Lee. Extract from letter of Arthur Lee, May 1, 1777, to William Lee; character of commissioners; Deane; Franklin; Williams. Extract, certified as true copy by Edmund Jenings. ff. (2).
4. **Bondfield**, John. *Jan. 22, 1780*. Letter from Bordeaux to Arthur Lee. Samuel Wharton; Chaumont; Franklin; John Adams; Izard. ff. (2).
[Jenings, Edmund]. *Jan. 24, 1780*. Letter to [Arthur Lee?]. Change of commissioners; John Adams; Holland; Great Britain's infringement of rights of neutrals on the sea; quotation in French from Baron de Bielfield. Signed, Mac Gregor; not superscribed. ff. (2). (Imperfect—torn.)
5. [—]. *Jan. 27, 1780*. Letter from Brussels. Acceptance of the Order of St. Louis. Signed, Mac Gregor; not superscribed; enigmatically expressed. ff. (2). (Imperfect—torn.)
6. **Bondfield**, John. *Jan. 29, 1780*. Letter from Bordeaux to Arthur Lee. John Adams; Chaumont; Izard; Haller; debt due from Virginia. ff. (2).
7. [Gillon, Alexander, *Commodore. Feb. 14, 1780*. Letter from Amsterdam to Arthur Lee. Attempts to purchase vessels. Not signed; indorsed, "Commodore Gillon" and "Outside cover directed by A. G." ff. (3).
8. **Bondfield**, John. *Feb. 19, 1780*. Letter from Nantes to Arthur Lee. Arrival of the Gov. Livingston and Mary Phearson; Virginia debts; D'Acosta; Haywood; report of English invading Virginia. ff. (2).
[Jenings, Edmund]. *Feb. 22, 1780*. Letter from Brussels to Arthur Lee. Expedition from Ireland for the West Indies; Walsingham's ships; Russia; John Adams. Signed, Donald Mac Donald. ff. (2).
Printed, Lee's Life of Arthur Lee, II. 107.
9. —. *Feb. 28, 1780*. Copy of letter to Charles Carroll. Abbé Mably's views; introduction of Arthur Lee. ff. (2).
Sartine, Antoine Raymond Jean Gualbert Gabriel de, *Minister of Marines. March 1, 1780*. Note of farewell, in French, to Arthur Lee. ff. (2).
10. **Le Roy**, Herman. *March 2, 1780*. Letter from Amsterdam to Arthur Lee. Thanks for Mr. Pringle's introduction to Lee; Chabanel; Admiral Byland. ff. (2).
Bondfield, John. *March 3, 1780*. Letter from Nantes to [Arthur Lee?]. Arrival of ship from Plymouth, Mass.; Bancroft; Lawrence; R. H. Lee. Not superscribed. f. (1).
11. **Breteuil**, Louis Auguste DE TONNELIER, *Baron de. March 4, 1780*. Letter of farewell to Arthur Lee. Luzerne. f. (1).
Franklin, Benjamin. *March 4, May 31, 1780*. Copy of memorandum to Congress concerning supplies. f. (1).
See Sparks' Diplomatic correspondence, III. 129, 143; Sparks' Franklin, VIII. 459.
12. [Lee, William]. *March 21, 1780*. Letter from Brussels to F. L. Lee. Failure to receive let

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- ters; Arthur Lee; family matters. Not signed. ff. (2).
- [Izard, Ralph]. *March 21, 1780*. Letter from Paris to Arthur Lee. Garnier; Grand; arrival of the Tonant; Gillon. Signed, R. I. ff. (2).
13. **Stone, William, Smith, Thomas, and Bunner, George, *Pilots from South Carolina***. *March 22, 1780*. Memorial from Brest to Arthur Lee. Governor of South Carolina; D'Estaing; the Languedoc; misfortunes. f. (1). (Imperfect — stained and torn.)
14. [Sarsfield, —, *Comte de*]. *March 22, 1780*. Portion of letter, in French, to [Arthur Lee?]. D'Aranda, D'Heredia; Carmichael. ff. (2). (Imperfect — stained, and the lower part torn off.)
- Smith, Michael, and others**. *March 28, 1780*. Memorial, dated L'Orient, to Arthur Lee. Trouble as exchanged prisoners; Milford cartel; Capt. Cottineau; non-payment of wages. Signed, Michael Smith, Thomas Cave, Patrick Reed, James Mullin, Moses Bigger, John Rayworth, W^m. Green. f. (1).
15. **Grinnell, William, and Wilson, Joseph**. *March 29, 1780*. Letter from L'Orient to Arthur Lee. Sickness; officers of the Alliance under J. P. Jones; expenses. ff. (2).
16. **Grand, [Ferdinand], banker**. *April 8, 1780*. Letter from Paris, in French, to Arthur Lee. Opinion of Lee at French court; Count d'Aranda. ff. (2). (Partly illegible from stain.)
- Bondfield, John**. *April 15, 1780*. Letter from Nantes to Arthur Lee. Chaumont; delay of ships; Izard; Franklin; Williams; Jay; Carmichael; Ross; Bancroft; fleet from Brest destined for Quebec; clothing for Washington's army; intimacy of Mrs. Johnson and Mrs. Williams; Peltier; Beaumarchais; De Montieu; Zacestas (?); Virginia trade; Samuel Wharton; illness of Franklin. ff. (2).
17. **Wara, —, *Baron de***. *April 19, 1780*. Letter from Paris, in French, to Arthur Lee. Lee's departure; Paradez; declaration concerning neutral vessels by the empress of Russia. ff. (2).
- [Lee, Francis Lightfoot?]. *April 24, 1780*. Part of letter to [Arthur Lee]. Introduction of George Mason, Jr.; Deane; advice to visit Gen. Whipple, Samuel Warren, Ellery, Merchant, Trumbull; George Wythe; Ludwell Lee. Addressed in cipher; no place of date; last part gone. f. (1). (Imperfect.)
- The handwriting resembles R. H. Lee's, but is more exact; the writer also refers to Ludwell Lee as "your nephew."
18. **Williams, Jonathan**. *April 24, 1780*. Copy of letter from Nantes to Lieut. Digges. Answer of letter; Alliance; Hills; Nicholson; Parkes's prize money. Indorsed, "about the sale of Wickes's prizes." Memorandum on back, of "Snow Friendship," sloop Betsey, sloop Jason, brig Mattey, brig Jenney. On the same sheet as the following.
- Franklin, Benjamin**. *April 26, 1780*. Copy of letter to Samuel Ross. Prize money of Capt. Wickes of the Reprisal; Thomas Morris, Morris & Lee; Bancroft. ff. (2).
19. **Laurens, Henry, [?r. ?]**. *May 4, 1780*. Note from Wilmington, N. C., to R. H. Lee. Death of Col. Parker; danger of Charlestown [ton]. ff. (1).
- Lee, William**. *May 17, 1780*. Letter from Brussels to [Arthur Lee]. Inclosure of copies of certificates concerning Thomas Morris's papers; Robert Morris; Ross; Alliance; Cpts. Wickes, Johnson, Nicholson; prizes; Franklin; Williams; Gourlade & Co.; Jones; Green. The first copied certificate is signed, William Blake, John Lloyd; the second, Ra. Izard, witness J. J. Pringle; the last, B. Franklin, "in our presence S. Deane — Arthur Lee"; all certified to by Edm. Jenings. ff. (2).
20. **Wara, —, *Baron de***. *May 29, 1780*. Letter from Paris, in French, to Arthur Lee. Confederation of the north; letter of Clinton to Lord Germaine; fleets of Toulon and Brest; Paradez ff. (2).
- 21, 22. **Gillon, Alexander, *Commodore***. *June, 1780*. Letter from Paris to John J. Cripps & Mey, of Charleston, S. C. Opinion upon Franklin, Deane, Bancroft, Robert Morris; commendation of John Adams, Arthur Lee, William Lee, Izard; Chaumont; difficulty of getting supplies for states; improvement of public service; Holland; Prussia. ff. (4).
23. **Shelburne, William Petty, *Earl of***. *June 2, 1780*. Note of personal friendship to Arthur Lee. Dunning; Barré. ff. (2).
24. **Sartine, A. R. J. G. G. de**. *June 3, 1780*. Letter, in French, to Arthur Lee. Arrangements for Lee's passage to America; governor of Martinique; Alliance; Paul Jones; Franklin. ff. (2).
25. **Franklin, Benjamin**. *June 7, 1780*. Copy of letter to Capt. Peter Landais. Orders not to meddle with the Alliance. Certified on Aug. 26, 1780, by Ja's Warren and Fitch Pool as true copy of a copy sent from Capt. Jones to Capt. Parke. Indorsed, No. 1. f. (1).
26. —. *June 16, 1780*. Copy of letter to Capt. Landais. Repetition of order. — Copy of letter to the officers and seamen of the Alliance to obey Capt. Jones. Indorsed No. 2, No. 3. Certified as the above (p. 25). f. (1).
27. —. *June 12, 1780*. Extract of letter to Capt. Jones. Mutiny of 115 men of the Alliance; Capt. Landais; prize money; Ariel. Indorsed, No. 4. Certified as the above (pp. 25, 26). f. (1).
- Printed in part, Life of John Paul Jones, Phil., *Lippincott*, 1858, p. 162.
28. **Brown, Joseph**. *June 18, 1780*. Letter from L'Orient to Arthur Lee. Petition for the prize ship Serapis; Franklin; Bancroft; Wharton; Jones. ff. (2). (Imperfect — bottom torn off.)
- [Lee, Arthur]. *June 25, 1780*. Draft of letter to Capt. Landais. Advice to him to sail with the Alliance. ff. (2).
29. **Jones, John Paul**. *June 27, 1780*. Letter from L'Orient to Robert Morris. Orders to return with the Alliance to Philadelphia; sale of the Serapis; honors from the French court; Luzerne; Landais; Ariel; prevention of bloodshed; sailors of the Bon Homme Richard; conduct of Arthur Lee; Deane; Franklin; zeal for America. ff. (2).
30. —. *June 27, 1780*. Letter from L'Orient to the president and board of admiralty at Philadelphia. Pleasure at the appointment of the board by Congress; mutiny, Lee, Landais; Robert Morris; Cpts. Bell, Montgomery, Smith; Franklin; action of Flamborough Head. f. (1).
- Vergennes, Charles Gravier, *Comte de***. *June 30, 1780*. Copy of letter, in French, to John Adams. Resolution of congress of March 18, 1780; desires of French court; Luzerne. Indorsed, No. 1. ff. (2).
- Translation printed, Adams' Works, VII. 212.
31. —. *June [30, 1780]*. Translation of letter to Benj. Franklin. Adams' representations,

- Luzerne; payments of paper money to the French. Incorrectly indorsed, *July 30*. ff. (2). (Imperfect — stained and torn.)
- Printed, Sparks' Diplomatic correspondence, III. 152; Sparks' Franklin, VIII. 477.
32. **Adams, John.** *July 1, 1780*. Copy of letter from Paris to Count Vergennes. Luzerne; resolutions of Congress; loan office certificates. Indorsed, No. 2. f. (1).
- Printed Adams' Works, VII. 213; Sparks' Diplomatic correspondence, V. 233.
- Page, John.** *July 4, 1780*. Letter from Rosewell, Va., to R. H. Lee. Association for weakening tory influence; Arthur Lee; William Lee. ff. (2).
33. **Vergennes, C. G., Comte de.** *July 20, 1780*. Copy of letter, in French, to John Adams. Destination of Ternay and Rochambeau; assurances of the friendship of the French court. Indorsed, No. 4. f. (1).
- Translation printed, Adams' Works, VII. 232; Sparks' Diplomatic correspondence, V. 278.
- Adams, John.** *July 21, 1780*. Copy of letter to Count Vergennes. Ternay; Rochambeau; appreciation of the friendship of the French. Indorsed, No. 5. f. (1).
- Printed, Adams' Works, VII. 233; Sparks' Diplomatic correspondence, V. 279.
34. **Vergennes, C. G., Comte de.** *July 25, 1780*. Copy of letter, in French, to John Adams. Objections to U. S. commissioners treating with Lord Germaine; treaty of commerce; desire to communicate first with congress. With copy on the margin of portions of Adams' letter of July 17. Indorsed, No. 6 & 7. ff. (4).
- Translation printed, Adams' Works, VII. 235, etc.; Sparks' Diplomatic correspondence, V. 287, etc. Adams' letter printed, Adams' Works, VII. 228, etc.; Sparks' Diplomatic correspondence, V. 266.
35. **Adams, John.** *July 26, 1780*. Copy of letter to Count Vergennes. Same subject; duke of Richmond; Hartley; Lord North; sentiments of the people of England; America; advantage to Europe. Indorsed, No. 8. pp. (8).
- Printed, Sparks' Diplomatic correspondence, V. 294.
37. —. *July 27, 1780*. Letter to Count Vergennes. Needs of Americans; assistance of France; admiral Graves, Ternay, Rochambeau; Guichen; reinforcements in the West Indies. Indorsed, No. 9. ff. (2).
- Printed, Adams' Works, VII. 241; Sparks' Diplomatic correspondence, V. 301.
38. **Vergennes, C. G., Comte de.** [*July*] 31, 1780. Translation of letter to [Benjamin Franklin]. Disagreement with John Adams; list of letters between Vergennes and Adams during June and July. ff. (2). (Very imperfect — torn.)
- Printed, Sparks' Diplomatic correspondence, V. 305.
39. **Lee, Arthur, and others.** *Aug. 5, 1780*. Copy of letter to Capt. Landais. Petition to sail; danger of loitering. Signed, Arthur Lee, Pontigibaud, La Colombi, Poirey, Ludwell Lee, Thomas Lee, John Middleton, E. Brush, Joseph Wilkinson, Joseph Brown Junr, John G. Frazer, Henry Ash, M. Comyn, M. Livingston. f. (1). (Imperfect — worn.)
- Buckley, John, and others.** *Aug. 10, 1780*. Copy of petition from the officers of the Alliance to Capt. Landais to enter port as soon as possible. Signed, John Buckley, James Lynd, M. Park, John Lauhar, James Warren, Thomas Ellwood, Benjamin Pierce, John Darling, James Bragg, Isaac Carr, N. Blodget, Thomas Hinsdale, George Thayer, Samuel Guild, Joseph Willson, George Raymond. — Copy of statement of officers. Capt. Landais's refusal of the petition; offer of command to 1st Lieut. James Diggs. Signed as above, with the additional names, Fitch Pool, John Savin. ff. (2). (Imperfect — one corner torn.)
40. **Gordon, William.** *Sept. 15, 1780*. Letter from Jamaica Plain to Ezra Stiles. Introduction of Arthur Lee. f. (1).
- . *Sept. 15, 1780*. Letter from Jamaica Plain to Benjamin Lord, Norwich, Conn. Introduction of Arthur Lee. f. (1).
41. [**Lee, Arthur**]. *Sept. 19, 1780*. Draft of letter from Boston to Baron Breteuil. Distress in America; depreciation of money; want of funds; need of loan of thirty or forty million livres; advantages of British in north and south. Not signed. ff. (2). (Partly illegible from stains.)
42. **Cooper, Samuel.** *Sept. 19, 1780*. Letter from Boston to Ezra Stiles. Introduction of Arthur Lee. ff. (2).
- Printed, Lee's Life of Arthur Lee, I. 166.
- . *Sept. 19, 1780*. Letter from Boston to Enoch Huntington, Middletown, Conn. Introduction of Arthur Lee. ff. (2).
- Printed, Lee's Life of Arthur Lee, I. 166.
43. —. *Sept. 19, 1780*. Letter from Boston to Andrew Eliot, Fairfax, Conn. Introduction of Arthur Lee. ff. (2).
- Printed, Lee's Life of Arthur Lee, I. 165.
44. **Huntington, Samuel.** *Oct. 26, 1780*. Letter from Philadelphia to Arthur Lee. Inclosure of act of congress; desire for information on affairs in Europe. ff. (2).
45. **Lee, Arthur.** *Oct. 27, 1780*. Note to Messrs. Madison, Bee & Clark. Directions about furniture. ff. (2).
46. **Bondfield, John.** *Nov. 1, 1780*. Letter from Bordeaux to Arthur Lee at Philadelphia. Receipt of letter through Mr. Brush; Sartine; Chaumont; arrival of the Fier Rodrigue; Deane; Franklin; refusal of Bondfield's ships; claims against Virginia; Williams. Indorsed as forwarded by W^m Vernon. ff. (2).
47. —. Duplicate of the last.
48. **Sarsfield, —.** *Comte de. Nov. 5, 1780*. Letter from Valenciennes, in French, to Arthur Lee. Armed neutrality; Gillon; John Adams; Izard, defeat of Gen. Gates [at Camden]; paper money of America; Bunker Hill; Gen. Warren. ff. (2). (Imperfect — torn.)
49. **Carmichael, William.** *Dec. 6, 1780*. Letter from Brandywine, Penn., to Arthur Lee. Lee's defence; Deane, Williams, Franklin; exhortations to perseverance. ff. (2). (Partly illegible from stains.)
50. **Extracts** from the trial of Capt. Landais. *Dec. 20, 1780?* Linn; conduct of Lee on passage to America; Stephen Waters; Blodget; Winship; reasons for taking command of the Alliance; Gillon; Franklin; Montbarrey; Ross; Lafayette; Diggs; Jones. Not complete. ff. (2).
- The date is taken from the indorsement in pencil added by a later hand.
51. **U. S. — Treasury office.** *Dec. 28, 1780*. Extracts from the minutes. Deposition of public property by Arthur Lee. Signed, Cornelius Comezys, Clk. f. (1). (Imperfect — worn.)

- [Sarsfield, —, *Comte de*]. Oct. 13, [1780 or '81]. Letter from Rennes, in French. References to letters and books received. No address or signature. f. (1). (Imperfect — torn.)
52. Copy of questions to be asked in court. Will of William Bird; Thomas Newman; petition for writ of subpoena. Attest. Robert Graham. Marked in pencil "1780?" (f.) 1. (Imperfect — first part gone.)
53. U. S. — *Auditor General*. Jan. 1, 1781. Copy of report on John Ross's accounts. With report from the commissioners of the chamber of accounts, dated Jan. 5. The commissioners' report signed, William Govett, John D. Mercier; the auditor-general's, James Milligan. Copy compared by W^m Duer, Scy. ff. (2).
54. Warren, James. Jan. 10, 1781. Letter from Boston to Arthur Lee. Information; Blodget; finances; publication of letters by British; Cooper. ff. (2).
Printed, Lee's Life of Arthur Lee, II. 273.
- [Sarsfield, —, *Comte de*]. Jan. 11, 1781. Letter from Valenciennes, in French, to Arthur Lee. Death of sister; Luzerne; declaration of war by England against Holland; D'Estaing; Izard; success of Gates against Ferguson. Not signed. ff. (2).
55. Blodget, Nathan, *Purser of the Alliance*. Jan. 25, 1781. Deposition, dated Boston. Arthur Lee's goods; Landais. ff. (2).
- Parke, M., *Capt. of Marines*. Jan. 29, 1781. Copy of deposition, dated Boston Harbor. Blodget's goods. — Similar deposition, Jan. 31, 1781, signed James Diggs, Lieut., Chipman Bangs, ship's Steward. Each certified as true copy by N. Blodget. ff. (2).
56. [Bondfield, John]. Feb. 24, 1781. Letter from Bordeaux to Arthur Lee. Rupture between England and Holland; Russia's offer of mediation; Dutch navy; Spanish fleet; fleet from Brest for America; John Laurens; interception of mails; Deane, Bancroft, Chaumont; Virginia's debts; D'Acosta, Beaumarchais. — March 20, 1781. Postscript. Mediation of Russia and Austria; Joseph Yorke; Choiseul; arrival of John Laurens. Signed, J. B. ff. (4).
57. [Sarsfield, —, *Comte de*]. March 8, 13, 1781. Letter from Paris, in French, to Arthur Lee. Departure of Letombe; mediation of Russia; armed neutrality; John Adams; Searle; Dana; son of John Laurens; Bondfield; Joseph Yorke; Lord North. Not signed. ff. (2). (Imperfect — torn.)
58. [Brown, John, *Secretary of the Admiralty*]. March 10, 1781. Copy of letter to Samuel Wharton. Inquiry concerning purchase of stores for America; Jones; Lafayette; Chaumont; Williams. Indorsed, "True Copy from the Original A. Lee." f. (1).
59. Jones, J. P. March 13, 1781. Extracts from answers to the board of admiralty. Schweighauser; William Lee; Franklin; Bon Homme Richard; Sartine; Landais; Ariel, Alliance; Ross; Chaumont; Serapis; Gourelade & Moylan; Wharton; Arthur Lee; Livingston. Addressed to Arthur Lee. f. (1).
60. Wharton, Samuel. March 23, 1781. Letter from Philadelphia to John Brown. Purchase of stores for America; Chaumont; Williams; Gourelade & Moylan; Jones. Indorsed, "True Copy from the Original A. Lee." f. (1).
See p. 58 for the letter of questions.
61. [Bondfield, John]. April 1, 1781. Letter from Bordeaux to Arthur Lee. Reduction of St. Eustatia; fleets of France, Spain, England, Holland; Lawrence; De Castre; Col. Palfrey; De Grasse, D'Estaing, De Touche. Signed, J. B. ff. (2). (Slightly imperfect.)
- Warren, James. April 29, 1781. Letter from Boston to Arthur Lee. Secretary for foreign affairs; Franklin; want of news; elections; Ward; Lovell; Adams; [Blodget]; navy board. f. (1).
Printed, Lee's Life of Arthur Lee, II. 274.
62. Wara, —, *Baron de*. May 4, 1781. Letter from Paris, in French, to Arthur Lee. Laurent [John Laurens]; mediation; Virginia; Palfrey. ff. (2).
- Izard, Ralph. May 12, 1781. Letter from Philadelphia to R. H. Lee. Arrival of vessel from L'Orient; news of fleet having sailed from Brest with French troops for America; loss of the Luzerne with mail; Virginia; movements of French troops; Rutledge; Laurens; Jefferson. ff. (2).
63. [Lee, Arthur]. After June 15, 1781. Draft of resolutions to be presented to congress. Revocation of appointment of Franklin, Jay, Henry Laurens, and Jefferson as ministers plenipotentiary jointly with John Adams to treat for peace; similar powers to John Adams alone. Indorsed with memoranda on other subjects. Incorrectly indorsed, "1 March, 1781." f. (1).
This appears from the Journals of congress, both public and secret, never to have been presented.
64. [Bondfield, John]. June, 25, 1781. Letter from Bordeaux to Arthur Lee. Chaumont; paper money; John Adams; Spain; insurrection in Peru; Russia; armed neutrality; Holland; resignation of Necker; Jolly; England's loss in the East Indies; French and Spanish fleets; journey of French emperor; German troops to aid British in America; fate of the ship Marquis de Lafayette; plan of sending supplies. Signed, J. B. ff. (2).
- [Warren, James]. July 4, 1781. Letter from Boston to Arthur Lee. Receipt of letter; attention to Lee's grant of land; Blodget; political state of affairs; Virginia. Signed, J. W. ff. (2).
Printed, Lee's Life of Arthur Lee, II. 275.
65. Jackson, William. July 5, 1781. Copy of letter from Amsterdam to Benjamin Franklin. Necessity for a ship sailing with supplies; repeal of orders to Messrs. Fiseaux; Laurens; Gillon; Necker; delay, an increased expense. ff. (2).
The letters of July 2, referred to in this letter, and Franklin's answers thereto, are printed in Sparks' Diplomatic correspondence, III. 221-226; also in Sparks' Franklin, IX. 49-54; but this letter is not printed.
66. [Lee, Arthur.] Aug. 13, 1781. Copy of letter to the president of congress. Reports of the board of admiralty; Alliance; Landais; Franklin; denial of charges; Lafayette; Williams; Jones; Ross; Bondfield; Ternay; Bland; Gillon; Diggs. Not signed. ff. (4).
67. Continental Congress, *Second*. Aug. 14, 1781. Copy of report on motion of Virginia delegates. Resolutions to grant passports to governors of Virginia and Maryland; importation of 50,000 bushels of salt. f. (1). (Imperfect — slightly torn.)
Printed, Secret journals of congress, I. 225, 226.
68. Breteuil, L. A. DE T., *Baron de*. Oct. 2, 1781. Letter from Paris, in French, to Arthur Lee. Thanks for copy of American constitutions. ff. (2).

- [**Sarsfield**, —, *Comte de*]. 1781. Letter from Rennes, in French. American legislation, Guilford Court House; Palfrey; Malesherbes; Mrs. Izard. Not signed or addressed. ff. (2). (Imperfect — stained and torn.)
- Bowdoin**, James. *Jan. 31, 1782*. Letter from Boston to Arthur Lee. Election as fellow of the American academy of arts and sciences; degree of LL.D. from Harvard university; defeat of Cornwallis. f. (1).
- Printed, Lee's Life of Arthur Lee, I. 177.
69. [**Lee**, William]. *Feb. 12, 1782*. Letter from Bruxelles to F. L. Lee. No receipt of letters for five years; private business; estate in Virginia; Philip Ludwell Lee; family matters. Signed, W. L. ff. (2).
70. **Gordon**, William. *March 2, 1782*. Letter from Jamaica Plain to Arthur Lee. Election to Congress; Deane; Arnold; Samuel Adams; freedom of the press in Boston; Lovell; Gates; reduction of Canada; Burgoyne; Gen. Greene. f. (1).
71. **Franklin**, Benjamin. *March 4, 1782*. Extract from a letter to the secretary for foreign affairs. Deane; Arnold; Johnson; Searle. ff. (2).
- Printed, Sparks' Diplomatic correspondence, III. 312; Sparks' Franklin, IX. 176.
72. [**Lee**, Arthur]. *April 12–June 29, 1782*. Notes on letters from Franklin and Jay. Carleton; capture by Spaniards of St. Joseph on the Illinois; Diggs; treaty. No signature; hastily written on back of letter. f. (1).
73. [**Jay**, John?]. *April 28, 1782*. Substance of letters. Complaint of Spanish minister against Gillon; prizes; Searle; Carmichael; Franklin; Del Campo; Holland; Spain; France. ff. (2).
- Madison**, James. *May, 1782*. Letter from Philadelphia. Parliamentary discussions; conciliatory overtures; military coercion; Jay; Carmichael; Spanish successes; western claims. Not superscribed. f. (1).
74. **Morris**, Robert. *May 10, 1782*. Copy of letter from the office of finance to the president of congress. Inclosure of state of the American commerce. ff. (2).
- See pp. 75, 76. Printed, Sparks' Diplomatic correspondence, XII. 150.
- Blodget**, Nathan. *May 10, 1782*. Letter from Boston to Arthur Lee. Franklin; Chaumont; John Brown; David Sears. ff. (2).
75. **Superintendent of Finance**. [*May 10, 1782*.] State of American commerce, referred to above (p. 74). pp. 7.
76. —. [*1782?*] Estimates upon state of the tobacco trade. ff. (2).
- These two were probably drawn up at about the same time, as they are by the same hand as the indorsement on Morris's letter (p. 74).
- 77, 78. **Continental Congress**, *Second*. *May 24, 1782*. Extracts from the minutes. Account and application of money borrowed in France; Franklin; Vergennes; Beaumarchais; Laurens; Virginia; Morris; Coutleux; Grand; Holland; Ross; Bingham; William Lee. Signed, Geo. Bond, Depy. Secy.; indorsed, Mr. A. Lee. ff. (3).
- Printed, Secret journals of congress, I. 231, etc.
79. **Allen**, William. *June 23, 1782*. Copy of deposition. Capt. Camue of the Cornwallis; ammunition taken from Frazer's Ferry. Sworn to before Carter Braxton. f. (1).
- Madison**, James. *June 25, 1782*. Letter from Philadelphia. Dutch resolutions in favor of America; Friesland, Holland; Utrecht, Zealand, Overysse; American trade; St. Eustatia. Not superscribed. ff. (2). (Imperfect — torn.)
80. **Franklin**, Benjamin. *June 25–29, 1782*. Extracts, in Arthur Lee's handwriting, from a letter to the superintendent of finance and to the secretary for foreign affairs. Suspicion of English intentions; enabling act; independence; treaty of Paris; Grenville; journal of events. ff. (2).
81. **Barclay**, Thomas. *June 29, 1782*. Extracts from letter No. 3, dated Amsterdam. Deane's accounts; Carmichael; Chaumont; money advanced to prisoners and officers; journey to Toulon; Beaumarchais; desire for instructions. ff. (2).
82. **Lee**, Arthur, and others. *July 15, 1782*. Copy of report of committee on Capt. Barry's information. Loss of the Lafayette; Moylan; Williams; Laurens; Capt. Robinson; Chaumont; Franklin; contents of ship; resolution requesting comparison with the log-book of the Alliance. Attested as true copy by R. Alden. Indorsed as report made by Mr. Lee, Mr. Ramsay, Mr. Lowell. ff. (2).
- See Journals of congress, VII. 411.
83. **Schweighauser & Dobrée**. *July 17, 1782*. Letter from Nantes to Arthur Lee at Philadelphia. Examination of accounts; Johnson; Franklin; Penet; Laurens; Fitzherbert; East India; Alliance. Indorsed, Quadruplicate. ff. (2).
84. **Gordon**, William. *July 26, 1782*. Letter from Jamaica Plain to Arthur Lee. Fishery question in making peace; John Adams; naval plan of English; Dutch successes; Rodney; Knox; Lincoln; Deane; Sears. f. (1). (Imperfect — torn.)
85. **Jenings**, Edmund. *July 29, 1782*. Letter from Brussels to Arthur Lee. Acts of British parliament; Shelburne; Sir George Saville; Fox; English affairs in India; Irish; negotiations for peace; Dutch; Spain; Laurens; Dana; Izard. ff. (2). (Imperfect — torn.)
- Bondfield**, John. *Aug. 1, 1782*. Letter from Bordeaux to Arthur Lee. Order for claret; Jay; Madrid court; William Lee. ff. (2).
86. **Barry**, John. *Aug. 2, 1782*. Copy of deposition before the committee of congress. Substance the same as that of the paper on p. 82. Sworn before Joshua Coit, Justice of Peace. Attested as true copy by R. Alden, Depy. Secy. ff. (2).
87. **Sarsfield**, —, *Comte de*. *Aug. 4, 1782*. Letter from Haerlem, in French, to Arthur Lee. Care of Lee's effects; John Adams; Lee's election to Virginia assembly; Izard's election to congress; prevalence of influenza; Palfrey. ff. (2). (Imperfect — torn.)
- Jay**, John. *Sept. 16, 1782*. Extracts from letter to the secretary for foreign affairs. Inclosure of letter from Marbois to Vergennes; French delays about the negotiation for peace; Franklin; fishery claims; Samuel Adams; extract from letter from John Adams; alliances with Spain and Holland; extract from letter from Franklin; Deane; adventurers. In Arthur Lee's handwriting. f. (1). (Imperfect — torn.)
- See Sparks' Diplomatic correspondence, VIII. 125, where the letter is dated Sept. 18.
88. **Greives**, George. *Sept. 23, 1782*. Letter from Philadelphia to Arthur Lee. Security for a bill; Shippen. ff. (2).
- Luzerne**, Cæsar Anne de la. [*About Sept. 24,*

- 1782.] Notes in Arthur Lee's handwriting of proposal to congress. United States not content with independence; continuation of war until allies are satisfied. f. (1).
See Sparks' Diplomatic correspondence, XI. 115.
89. **Gordon, William.** *Oct. 2, 1782.* Letter from Jamaica Plain to Arthur Lee. Mail-robbing; John Temple; Price; James Sullivan; John Adams; Franklin; accusation upon suspicion. f. (1).
Printed, Lee's Life of Arthur Lee, II. 288.
90. **Adams, John.** *Oct. 10, 1782.* Letter from the Hague to Arthur Lee. Minister from Holland to congress; Van der Capellan de Pol; Van Berckel; independence of action; Jay; Dana; Laurens; ability of ministers; secret commissions; Franklin. Indorsed, "3 plicate." ff. (2). (Almost illegible from stains and pale ink.)
91. —. Another copy.
Both this and the last (p. 90) have autograph signatures.
92. [**Dana, Francis.**] *Oct. 25, 1782.* Letter to Arthur Lee. Correspondence; Tories; [John Adams]; Holland; obscure references to persons and views mentioned in Lee's letter. Not signed; marked in pencil, "Francis Dana"; indorsed, No. 2. ff. (2).
Printed, Lee's Life of Arthur Lee, II. 284.
- Jay, John.** *Nov. 17, 1782.* Copy of note. Relations with France; Geneva; Corsica. In Arthur Lee's handwriting. With memorandum on back about clothing. f. (1).
93. **Communications** from foreign ministers about the negotiations for peace. *Dana. Oct. 21.* Commerce with Russia; *Nov. 7.* Treaty with Russia. *Jay. Dec. 12.* Vergennes; Franklin; treaty; Shelburne; Carleton; D'Aranda; western claims; Oswald, Bainvall, Vaughan. *Adams.* Treaty with Great Britain and with Spain; navigation of Mississippi; evacuation of New York; D'Estaing; Tories. *Jay. Nov. 17.* Same as above (p. 92). *Lee.* Concurrence in Jay's view. Proposed boundary to the United States. f. (1).
These are items extracted from different letters at different times by Arthur Lee.
94. **Adams, John.** *Nov. 18, 1782.* Copy of letter from Paris to Robert R. Livingston, secretary for foreign affairs. Remonstrance against the ministers being subject to the advice of the French court. Certified as true copy by A. Lee. ff. (2).
Printed, Sparks' Diplomatic correspondence, VI. 459; Adams' Works, VIII. 11.
95. [**Sarsfield, —, Comte de.**] *Dec. 11, 1782.* Letter from Paris, in French, to Arthur Lee. Failure in receiving letters; Mrs. Izard; Lee's effects; John Adams; Laurens; Gibraltar; Biville; Androens. ff. (2). (Imperfect—torn.)
Campbell, Arthur, Col. *Dec. 27, 1782.* Letter from Richmond to Arthur Lee. Reservation of western lands; introduction of European settlers; negotiations for peace; opponents; purchase of books. ff. (2).
96. **Bondfield, John.** *March 6, 1783.* Letter from Bordeaux to [Arthur Lee?]. Spain; Carmichael; Jay; Franklin; Laurens; Adams; liquidation of debts; Lafayette; western boundaries; Mississippi river. f. (1).
- Warren, James.** *March 14, 1783.* Letter from Milton, Mass., to Arthur Lee. Attested copy of paper desired; Lee's lands; peace; arrival of packet for congress; John Adams' resignation; fishery claims; Gen. Lincoln. ff. (2).
Printed, Lee's Life of Arthur Lee, II. 278.
97. **Morris, Robert.** *March 17, 1783.* Copy of letter to the president of Congress. Explanation of resignation as financier; loss of credit in Europe; impost law. Extract from a letter by Luzerne, March 15; Vergennes. f. (1).
Printed, Sparks' Diplomatic correspondence, XII. 341.
98. **Gordon, William.** *April 2, 1783.* Letter from Jamaica Plain to Arthur Lee. Congratulations on peace; extract from London Courant of Jan. 10; Laurens; Deane; Franklin; boundaries of Nova Scotia; John Adams; Shirley, Pownall, Bernard, Hutchinson, Sir William Alexander; fishery claims; British creditors and refugees; Jay; Pennsylvania, Virginia, New York; importance of the confederation; state rights; [Massachusetts], Rhode Island; satisfaction to military; choice of governor. f. (1). (Imperfect—torn).
Printed, Lee's Life of Arthur Lee, II. 289.
99. **Adams, John.** *April 12, 1783.* Copy of letter from Paris to Arthur Lee. Peace; negotiations; Hartley; Fox; Shelburne; Laurens; Tories; dissatisfaction in England; treaty of commerce; Marbois; French politics; distinct interests of America. f. (1).
Printed, Lee's Life of Arthur Lee, II. 248; also in Adams' Life of John Adams, IX. 517, with an additional opening paragraph referring to the difficult situation of the commissioners and to Franklin's part in the history of the treaty.
- 100, 101. **Officers of the Virginia Line.** *May 12-16, 1783.* Memorial to the senate and house of delegates of Virginia. Assignment of lands; Muhlenberg, Weedon, Scott, Morgan; Wood, Heth, Temple, Hopkins, Towles, Clark, Burwell, Carrington. Signed, I. Muhlenberg, President of the Board. Attested, John Beckley. ff. (4).
102. **Laurens, Henry.** *June 17, 18, 1783.* Extracts from letters. Negotiations for peace; Hartley; trifling; Fox; evacuation of New York; unmanufactured produce. ff. (2).
See Sparks' Diplomatic correspondence, X. 173.
- [**Sarsfield, —, Comte de.**] *June 19, 1783.* Lee's effects; Mrs. Izard; Mad. L'Eucreuil (?); Barclay; American debts; French soldiers; future commerce; Russia, Turkey; Shelburne. No signature. ff. (2).
103. **Bondfield, John.** *June 20, 1783.* Letter from Bordeaux to Arthur Lee. Lee's effects; Mrs. Izard; Richard Yates; William Lee; Barclay; Deane; Williams; Jay; Laurens; Adams; Spain; Carmichael; Russia, Turkey, England, France; public debts in America. ff. (2).
- 104-107. **Adams, John.** *June 23, July 14, 18, 1783.* Extracts from letters to R. R. Livingston. New situation of Ireland, Canada, Nova Scotia; uncertainty of course of Great Britain; free trade; West Indies; treaty of commerce with England; jealousy of American trade in France and England; proclamation; belief of England in want of unity in America; necessity for a minister at London; Shelburne; Benjamin Vaughan; Pitt; negotiations necessary with the Dutch, Danes, Portuguese; management of foreign affairs; public credit. pp. 8.
Printed, Adams' Life of John Adams, VIII. 74, 97, 107.
108. **Bondfield, John.** *July 1, 1783.* Letter from Bordeaux to Arthur Lee. Shipping of Lee's effects. ff. (2).

- Commissioners for Peace.** *July 18, 1783.* Extract from letter of John Adams, Franklin, Jay. Disposition of France. f. (1).
See Sparks' Diplomatic correspondence, X. 191.
109. —. *April 14, June 23, 24, 27, July 7, 8, 18, 22, 27, 1783.* Extracts from letters of different dates. Negotiation for peace; concealment of secret article; Spain; France; definitive treaty; payment of debts to British; negroes; Hartley; commercial regulations; Shelburne party preferable to the new ministry; disposition of French. ff. (2).
For the letters of these dates, see Sparks' Diplomatic correspondence, X.
110. **Franklin, Benjamin.** *July 22, 1783.* Extract from letter. British commercial proclamation; remedies. f. (1).
111. —. *July 22, 1783.* Extract from letter to Congress. [John Adams'] suspicions of French court. Attested as true copy, A. Lee. f. (1).
Both these will be found printed, Sparks' Diplomatic correspondence, IV. 139, etc.
112. **Milligan, James,** *Controller of the Treasury.* *July 25, 1783.* Copy of letter to the board of treasury. John Swanwick's accounts; receivers of taxes. Compared with the original by Wm Duer, Secy. ff. (2).
[Continental Congress, Second]. *Aug. 14, 1783.* Copy of letter to Gov. Harrison, dated Princeton. Accounts with Virginia; adjournment to Philadelphia. Not signed. ff. (2).
113. **Scott, John.** *Aug. 20, 1783.* Letter from Dumfries, Va., to Arthur Lee. Political sentiments in Virginia; Lee's prospects; Col. Grayson; Col. Blackburn; Richard Graham; Col. Alexander; removal of Congress from Philadelphia; Georgia speculation; Col. Martial. ff. (2).
114. **Rendrez (?)**, Francisco. *Aug. 27, 1783.* Letter from Philadelphia to Arthur Lee. Breach of laws of nations against Spain; request for investigation; Church, Haydon; Col. Bland. ff. (2).
115. **Bondfield, John.** *Sept. 20, 1783.* Letter from Bordeaux to Arthur Lee. Congratulation on Virginia's condition in regard to debts; Price & Hayward; obligations received; re-imbusement from Virginia notes, etc.; John Dickinson; Montet & Henry. ff. (2).
Lloyd, John. *Oct. 14, 1783.* Letter from Charleston to [Arthur Lee]. Removal of congress from Philadelphia; danger of political corruption in America; judgment against Deane; delegate to congress. ff. (2).
116. **Bondfield, John.** *Oct. 20, 1783.* Letter from Bordeaux to Arthur Lee. Price & Hayward; Nelson, Heron & Co.; Carter Braxton's estate; Schweighauser & Dobrée; R. H. Lee; Digges; Waterman; American commerce; domestic improvements; Carmichael; American debts. ff. (2).
[Continental Congress, Second. *Nov. 25, 1783?*] Drafts of letters to a foreign minister. Effects carried off by French officer; arrival of definitive treaty; evacuation of New York city; [Washington's] character. No signature, address, or date. Marked in pencil, "25 Nov. 1783?" f. (1).
117. **Gillon, Alexander,** *Commodore.* *Nov. 29, 1783.* Letter from Charleston to Arthur Lee. Removal of congress; Robert Morris; Lloyd. ff. (2).
118. **Higginson, Stephen.** *Nov. 1783.* Letter from Boston to Arthur Lee. Removal of congress; impost duties; public credit; treasury department; marine department; Morris; Russell, Parker; Hawkins. ff. (2).
119. **Virginia—House of Delegates.** *Dec. 22, 1783.* Copy of resolution. British trade; impost duties; claim to country north-west of the river Ohio. Signed, John Beckley, Clk. Agreement by senate signed, W. Drew. f. (1).
[Sarsfield, —, Comte de]. *Jan. 29, 1784.* Letter from Paris, in French, to [Arthur Lee]. Lee's effects; Mrs. Izard; Izard; Princeton; Adams; Malesherbes; Luzerne; Marbois; London; Holland. Not signed. ff. (2). (Imperfect — torn.)
120. **Dana, Francis.** *Feb. 3, 1784.* Letter from Cambridge to Arthur Lee. Minister to St. Petersburg; congress. ff. (2).
Printed, Lee's Life of Arthur Lee, II. 287.
121. **Lafayette, Marie Jean Paul Roch Yves Gilbert DE MOTIER, Marquis de.** 1784. Extract from an essay, in French, on the commerce of France with the United States. ff. (2).
122. [Sarsfield, —, Comte de]. *April 23, 1784.* Letter from Paris, in French, to Arthur Lee. Col. Harrison; Lee's effects; English parliament; Fox; North; Izard. Not signed. ff. (2).
123. **Continental Congress, Second.** *April 26, 1784.* Appointment of G. R. Clarke, Oliver Wolcott, Richard Butler, Philip Schuyler, Benjamin Lincoln, and Arthur Lee as commissioners to treat with Indians; Six Nations; Cherokees; Nathaniel Greene, Stephen Higginson. With seal. Signed, Thos Miflin, Chas Thomson, Secy. f. (1), doubled.
124. **Harrison (?)**, Matts. *Aug. 16, 1784.* Letter to Arthur Lee. News from Maryland. f. (1).
Lafayette, M. J. P. R. Y. G. DE M., Marquis de. *Sept. 30, 1784.* Letter from Fort Schuyler to the commissioners with the Indians. Arrangements about meeting, and about summoning the chiefs; Courtland; Oneidas. — *Oct. 1.* Draft of answer. Kirkland; Oneidas; Wolcott; Marbois; accommodations. ff. (2).
Printed, without answer, Lee's Life of Arthur Lee, II. 362.
125. **Fonda, Jelles, and others, Judges of the Inferior Court of Montgomery County, New York.** *Oct. 15, 1784.* Letter from Johnstown, N. Y., to the commissioners with the Indians. Sale of liquor to the Indians; jurisdiction of the court. Signed, Jelles Fonda, Zephaniah Batcheller, Christian Neiles, Peter Lambert, George H. Bell; superscribed, Oliver Wolcott, Richard Butler, Arthur Lee. ff. (2).
126. **Extract** from a letter, *March 14, 1785*, from Paris, in French. Prospects of war; cession of Bavaria to Austria; empress of Russia; king of Prussia. Not signed or addressed. ff. (2).
127. **Continental Congress, Second.** *June 15, 1785.* Proclamation forbidding intrusion upon the unappropriated lands north-west of the Ohio. Printed; signed, Richard Henry Lee, P., Charles Thomson, Sec'y. New-York: printed by F. Childs. *Broadside.*
See Journal's of congress, X. 212.
128. —. *June 15, 1785.* Copy of resolutions. Directions to the commissioners with the Indians; cession of lands; Kaskaskia; St. Vincent's; oath of allegiance; prohibition of intrusion, etc.; proclamation as above; directions to the board of treasury; appropriations; purchase

of goods, provisions, etc. Signed, Chas. Thomson, Secy. f. (1).

Printed, Journals of congress, X. 211-213.

129. **Butler**, Richard. *July 5, 1785*. Letter from Philadelphia to Arthur Lee. Arrangements about treaty; Campbell; Clark; Wolcott; Montgomery. ff. (2).
130. **Continental Congress**, *Second*. *July 9, 1785*. Resolutions about the treaty with the Indians. Place of treaty; troops. f. (1).
131. **Letter**, *Sept. 4, 1785*, from the Hague. Opening of the Scheld; internal politics of Holland; parties of patriots and Orangemen; Van Berckel; pensionary of Dort; affection for America; De Verac, Sir James Harris; position of American minister; "Germanique Ligue" between Prussia, Saxony, and Brunswick. ff. (2). (Imperfect — last part gone.)
Virginia — Council. *Oct. 15, 1785*. Copy of advice to the governor. Payment of interest on loan-office certificates; extract from act of congress relative thereto, April 28, 1784. Signed, A. Blair, C. C. f. (1). (Imperfect — torn.)
132. **Henry**, Patrick. *Oct. 20, 1785*. Copy of letter from the council-board. Loan-office certificates; copy of resolution of the assembly, Dec. 8, 1785; directions to the treasurer of Virginia. Not superscribed. ff. (2).
Virginia — Assembly. *Dec. 8, 1785*. Copy of the above resolution. With memorandum by J. Hopkins, C. L. officer. ff. (2).
133. **Copy** of letter, *Dec. 29, 1785*, from New York to Patrick Henry. Loan-office certificates; debts of Virginia. Not signed. ff. (2).
134. **Lee**, Arthur. *Jan. 26, 1786*. Copy of letter to the marquis of Lansdown. Employment of Indians by civilized nations; Thomas Lee Shippen. ff. (2). (Imperfect — first part gone.)
135. **Jefferson**, Thomas. *April 22, 1786*. Letter from London to R. H. Lee. Lamps; Thomson; commercial treaty with England; Lansdown; Price; Arthur Lee; the king's obstinacy; Gen. Clark. ff. (2).
- Printed, Jefferson's Works, II. 1.
- Continental Congress**, *Second*. *June 2, 1786*. Copy of resolution. Settlement by board of treasury of accounts of secret committee of congress and commercial committee. Signed, Charles Thomson, Secretary. f. (1).
- Printed, Journals of congress, XI. 115.
136. **Wormley**, Ralph. *Dec. 25, 1786*. Letter from Rosegill, Va., to [Arthur Lee?]. Marriage; "the magician"; Corbin; chief magistrate of the United States; disturbances in the eastern states; impeachment of Warren Hastings; George Hardinge; Fox; Pitt. Not superscribed. ff. (2).
- 137, 138. **Gardoqui**, Joseph. 1786 or 1787. Representations touching the claim of Spain to the navigation of the Mississippi. ff. (4).
- 139-141. **Shelburne**, Wm. Petty, *Earl of Marquis of Lansdown*. *Feb. 4, 1787*. Letter from London

to Arthur Lee. T. L. Shippen; parties in England; Lord Rockingham; future friendship with America; Indians; Mad. Pohgrave (?); Lord Wycombe. ff. (6).

Printed, Lee's Life of Arthur Lee, II. 357.

142. **Wormley**, Ralph. *Feb. 8, 1787*. Letter from Rosegill, Va., to [R. H. Lee?]. Death of Mrs. Tayloe, and of Mrs. Page; disturbances in the eastern states; Lord Dorchester; Randolph; regulations of commerce; federal government; Burke; subscriptions to loan; "the magician." Not superscribed. ff. (2).
143. **Hopkins**, John. *May 20, 1787*. Letter from Richmond to Arthur Lee. Interest on military debt of Virginia; Lee's land; Ambler; Hays. ff. (2).
Corbin, Francis. *Aug. 8, 1787*. Letter to Arthur Lee. Destruction of court-houses; governor of Virginia; petitions for paper money, etc.; R. H. Lee; money transaction, C. Lee, Morris, Hunter. ff. (2).
144. **Turberville**, George Lee. *Oct. 26, 1787*. Letter from Richmond to Arthur Lee. Submission of federal plan of government to people; Madison; Carrington; Lee; Brown; Cyrus Griffin; Randolph. ff. (2).
145. —. *Oct. 28, 1787*. Letter from Richmond to Arthur Lee. Plan of government; Wilson; character of newspapers; Gen. Clark and Creek Indians in Georgia. ff. (2).
146. **Otto**, —, *chargé d'affaires de France*. *Nov. 16, 1787*. Letter from New York, in French, to Arthur Lee. Presentation of portrait of king of France. With translation and copy of answer. ff. (2).
147. **Virginia — House of Delegates**. *Dec. 16, 1787*. Copy of resolutions. Inquiry about continental state money issued from the continental loan office. Signed Wm. Harwood, Cl. H. D. ff. (2).
148. **Sarsfield**, —, *Comte de*. *Jan. 12, 1788*. Letter from Paris, in French, to [Arthur Lee]. Thanks for news; visit to England; Borwood; Wycombe; Waller; "non-catholics" in France. Not signed. ff. (2).
149. **Livingston**, Ann H. *Oct. 5, 1788*. Letter from Philadelphia to her uncle, Arthur Lee. Journey of brother; Holland; Strasburg; Switzerland; family matters. ff. (2).
150. **Sarsfield**, —, *Comte de*. *April 24, 1789*. Letter from Paris, in French, to Arthur Lee. Jefferson; desire to hear from Lee; danger of revolution in France. ff. (2).
151. **[Lee, Arthur]**. *Aug. 29, 1789*. Letter to [F. L. Lee]. Taylor; abolition of board of treasury; visit to Virginia; R. H. Lee; William Lee; judiciary bill; seat of federal government; crickets; Campbell; prospective war in Europe; France; Turkey; Russia. impost bill in congress. Not signed or superscribed. ff. (2).
152. **Bondfield**, John. *Oct. 8, 1790*. Letter from Bordeaux to Arthur Lee. Business trouble with Thomas Shore of Petersburg, Virginia; price of grain; H. L. Shore; Fenwick, Mason & Co. ff. (2).

APPENDIX.

** The papers included in the eighth volume were not arranged by Mr. James Winthrop Harris, when he prepared volumes one to six for binding in 1860. Vol. vii. was arranged but not bound till 1877. Since Mr. Harris's death these additional manuscripts have been found in a parcel marked "Lee Papers," but without any indication of the reasons for not including them in the series as arranged. Many of them are fragmentary, and without dates, and such arrangement has been made of them as seemed practicable.

VOL. VIII.

1. **Pennsylvania** — *Assembly*. Oct. 21, 1741. Extracts from votes granting money to the Crown. ff. (2).
2. **Value** of exports from 5 Jan. 1769 to Dec. 1770. Statement by Colonies. f. (1).
3. **Sundry** advertisements about rolling wagons. Mar. 15, 1773. A printed paper, 3 pp. MS. memoranda on reverse.
4. **Continental Congress, First**. Copy of address to the people of Great Britain. ff. (5).
This was drafted by R. H. Lee. Cf. Lee's Life of R. H. Lee, i. 119; Pitkin's United States, i. app. 17; Jay's Life of John Jay, i. app.
5. [Lee, Arthur]. Memoranda relating to the presentation of the petition of Congress to the King, including Arthur Lee's letter, Dec. 22, 1774, to R. H. Lee; with an addition, Dec. 24, covering a copy of Lord Chatham's note; and another, Dec. 26. Copy of the letter, signed Henry Middleton, President, transmitting the petition to the colonial agents in London. ff. (4).
6. [Lee, Arthur]. Memorandum about interview with Lord Dartmouth regarding the petition to the King, with copy of letter, signed by Richard Penn and Arthur Lee, and dated London, Sept. 2, 1775, and addressed to the President of Congress. f. (1).
See Lee's Life of Arthur Lee, i. 45.
7. [Lee, Arthur, and others]. Memoranda. Willing, Morris & Co. Financial matters in 1776. Profit and loss account. Drafts. Extract from a report to the Board of Treasury, signed James Millegan, dated, Aug. 14, 1786. Dissection of receipts and payments, 1781. Public goods from Europe, 1781-83. Morris's contract for supplying rations, 1782, etc. ff. (10).
8. **Langdon**, John. Unfinished copy of letter, Apr. 4, 1776. f. (1).
9. **Deane**, Silas. Copy of extracts of letter, dated Paris, Dec. 3, 1776. Financial matters. Certification to the correctness of the copy, lodged in the Treasury of the United States, signed Samuel Osgood, and dated, July 5, 1788. ff. (4).
10. **Carmichael**, Wm., in acct with The Honorable Silas Deane, Esq., 1776 and 1777. A copy. ff. (2).
11. **Statement** of war material shipped by the government of France to the United States, Aug. 1776 to Mar. 1777. f. (1).
12. **Comptes** des sommes que J. Sollier de Paris a recues et payé à Messieurs Franklin, Deane, et Lec. 1777. f. (1).
13. **Soldiers'** clothes furnished by French houses, 1777. f. (1).
14. **Invoice** of sundry merchandise shipped on ship Theresa from Nantes to St. Domingo, Apr. 20, 1777. Attested copy. With memorandum of Jos. Pennell, 1782. f. (3).
15. **Deane**, Silas, in account with Wm. Hodge, 1777. £113,720. 12s. 7d. ff. (2).
16. **Account** of sales of four hogsheads of peltry. 1777. ff. (2).
17. **Lee**, Arthur. Drafts of letters: a. Berlin, June 28, 1777, to commissioners at Paris, about army clothing. b. Berlin, July 7, 1777. To same. Robbed of his papers. Doings of English envoy. c. Paris, July 29, 1777. To chairman of secret committee. Mission to Berlin. Robbery of papers. Sale of German troops to England. d. Paris, Sept. 9, 1777. To the chairman of the secret committee. Opening of German ports. ff. (6).
18. **Morris**, Robert, and others. Jan. 14, 1777. Extracts from letter from Philadelphia to Leonard Jarvis. Marine and mercantile affairs. Extract of affidavit by Morris, Aug. 2, 1785, concerning agreement with Blair McClenahan in Dec. 1776, for charter of ship. Extract of affidavit by McClenahan, Apr. 19, 1786, regarding the same. Affidavit (copy) of Richard Carne, Feb. 14, 1778, concerning the capture of the ship; and extract from Registry of Admiralty at Nantes on the same point. ff. (3).
19. **Lee**, Arthur, and others. Drafts of letters, 1777-78, concerning the Messrs. Delap's custom of addressing their letters to only two of the commissioners. ff. (2).
20. **Lee**, Arthur, in account with the United States, 1777-79. 376,500 livres. ff. (2).
21. **Compte** courant des États Unis par Messieurs Franklin, Lee, and Adams, chez F. Grand. Paris, Nov. 22, 1778. ff. (4).
22. — Aug. 8, 1778. ff. (2).
23. **Morris**, Feu Monsieur Thomas, de Nantes pr cte des États Unis. 1777-78. f. (1).
24. **Compte** courant des États Unis par Messieurs Franklin, Lee, and Adams chez F. Grand. June 30, 1778. ff. (2).
25. [Fragment of accounts, in French. 1777-78.] f. (1).
26. **Nikal**, Jno. M. Note without date to Mr. Hines, attorney, Gosport. ff. (2).
27. **Messieurs** Franklin, Deane, and Lee, etc. courant chez Ferdinand Grand de Paris. Jan. 24, 1778, with copies of notes, signed by the commissioners, 1777-78. ff. (6).
28. **Lee**, Arthur. Paris, June 5, 1778. Memorandum of doings and talks.
29. **Note** in French, without signature, "Dimanche, 28," [1778?] to Arthur Lee, "à hôtel d'Espagne." ff. (2).
30. **De Breteuil**, Baron. Paris, ce 26 Fev. Note of invitation to Arthur Lee. ff. (2).
31. **De Chalut**. Note in French to Arthur Lee. f. (1).
32. **Livingston**, M. Affidavits, Apr. 11, 1778, and 20 Feb. 1779, regarding alleged stock jobbing of Lee and Izard. f. (1).
33. **Morris**, Robert. Feb. 17, 1778. Copy of letter to commercial committee. ff. (2). (Imperfect.)

34. **Harrison**, Benjamin. *Jan. 9, 1778*. Extract from letter at Williamsburg to Robert Morris. Procuring of boats and wagons. ff. (2).
35. **Copy** of address to the powers and people of Europe on the inhuman conduct of the war on the part of Great Britain, covering resolutions of Congress, *Jan. 2, 1776* and *Oct. 30, 1778*. ff. (8).
36. **The United States** of America, acc. with John Ross, *July 1, 1779*; duplicate copy. Audited by Samuel Wharton and Edward Bancroft, *July 10, 1779*; under authority of Franklin. Attested by Wm. Duer. ff. (2).
37. [**Lee**, Arthur]. Copies of letters addressed by him to committee of correspondence, *Nov. 20, 1778*; to le Comte Florida Blanca, *Dec. 17, 1778*, respecting cruelty in the conduct of the war on the part of the British; to le Comte d'Aranda, *Dec. 18, 1778*, in French, forwarding a letter; to Comte Florida Blanca, *Dec. 27, 1778*, concerning the manifesto of Congress on the British barbarities; to le Comte d'Aranda, in French, forwarding a letter. Copies, attested at l'Orient, *May, 1780*, by N. Blodget of Boston, and A. Windship of Boston. ff. (6).
38. **Compte des États Unis** par Messieurs Franklin, Lee, and Adams, chez F. Grand. *Feb. 11, 1779*. ff. (4).
39. **List** of bills received from Coten the banker, 1779. ff. (1).
40. **Lee**, Arthur. Paris, *Apr. 27, 1779*. Observations on the contract made with the farmer-general for the delivery of 5000 hogsheds of tobacco by the Hon. B. Franklin and Silas Deane; followed by memorandum on Mr. Deane's letter of accusation, *etc.* ff. (8).
41. [**Lee**, Arthur]. Memoranda, *May 19, 20, June 4*. A French officer. Beaumarchais. Deane's address to the citizens of America. ff. (2).
42. **Return** of military and ordnance stores, clothing, *etc.*, received and delivered by John Langdon, Esq., Portsmouth, *Mar. 8, 1779*. ff. (2).
43. **Jones**, John Paul, and others. "Extrait d'une lettre de John Paul Jones à Benjamin Franklin, datée au bord du Serapis dans le Texel, le 3 Oct. 1779," respecting the fight with the Bon Homme Richard. Extract of a letter from Capt. Pearson, of his majesty's ship Serapis, to Mr. Stevenson, dated Texel, *Oct. 6, 1779*, concerning the same fight. Extract of a letter from Capt. Jones, dated Texel, *Oct. 3, 1779*, regarding the conduct of the Alliance frigate. Extrait d'une lettre du Capt. Cotteneau, of the Pallas, dated Texel, *Oct. 4, 1779*, concerning the same fight. ff. (6).
44. **Franklin**, Benjamin. Passy, *Aug. 9, 1780*. To S. Huntington, President of Congress. Copy of a part of letter regarding John Adams's conduct in France. f. (1).
45. [**Lee**, Arthur]. Notes about the active alliance of France with the United States, dated *Jan. 25, 1780* and *Jan. 28, 1780*. ff. (2).
46. **Continental Congress**, *Second*. 1780. Report of a committee to receive a communication from the minister plenipotentiary of France, relative to terms of the French alliance and the Spanish demands. Copy or draft. ff. (2).
47. **Account** of moneys paid to M. Chaumont by F. Grand, *Mar. 1, 1780* to *Jan. 22, 1782*; to Jonathan Williams, *Mar. 1, 1780* to *Jan. 28, 1782*; to Messrs. Gourlarde and Moylan, *Mar. 1, 1780* to *Jan. 28, 1782*. ff. (4).
48. **Thomson**, Charles, *Sec. of Congress*, to Robt. Morris, Supt. of Finance, *June 29, 1781*. Copy of a private letter. Continental finance. ff. (4).
49. **Vergennes**, Charles Gravier, *comte de Versailles*, *May 16, 1781*. Statement about a loan to the United States from the King. In French, with an English translation. ff. (4).
50. **Morris**, Robert. Letters to M. Grand, *Dec. 3, 1781*, on his services and accounts; and to B. Franklin, *Dec. 4, 1781*. Copies. Other memoranda. Comments of Arthur Lee. ff. (3).
51. "Articles pour servir de base à la négociation du rétablissement de la paix." ff. (2).
Adams's letter referring to this is dated *July 13, 1781*. See Sparks's Diplomatic Correspondence, vi. 102.
52. **Morris**, Robert. *June 8, 1781*. Letter to Benj. Franklin. Copy. Money granted by the French king. f. (1).
53. **Morris**, Robert. *July 14, 1781*. Extract from letter to Dr. Franklin about a Bank. Extract from letter to Jay. Comments by Arthur Lee. Morris to Robert Smith, *July 17, 1781*, (extract).
54. **Franklin**, Benjamin. *July 26, 1781*. Extracts from letter to Robert Morris. Financial matters. f. (1).
55. **Franklin**, Benjamin. *Nov. 5, 1781*, and *Jan. 28, 1782*. Extracts from letters to Robert Morris. Money for the ensuing campaign. f. (1).
56. **Morris**, Robert. Extract from a letter, probably to Franklin, 1781, about the finances and the French grant. Extract from a letter to Franklin, *Nov. 27, 1781*. Relations of France and the United States to the war. Other briefer extracts from Morris's letters. ff. (4).
57. **Morris**, Robert. *July 28, 1783*. Extract from letter, declining to incur new monetary engagements. ff. (2).
58. **Morris**, Robert. *Oct. 15, 1783*. Copy of letter to Thomas Tillotson, receiver for the State of New York. "Ciamors against poor Tories." f. (1).
59. **Morris**, Robert. *Jan. 13, 1784*. Copy of letter to President of Congress. Petition of John Cooper. Adjustment of accounts of the secret committee of Congress. f. (1).
60. **Morris**, Robert. *Feb. 12, 1784*. Copy of letter to Benj. Franklin. Readiness to meet financial engagements. Funding of the debt. ff. (2).
- 61, 62, 63. **Morris**, Robert. *Feb. — — —*. Copy of letter to Benj. Franklin, with A. Lee's statement of its being correctly copied. Finances. Statements which could not be made in a previous letter, because copies of that were sent to Holland. Urges Franklin to activity. ff. (6). (Slightly torn.)
64. **Extracts** from letter of Robert Morris to F. Grand, *Feb. 12, 1784*; to Thomas Barclay, consul-general, *June 16, 1784*, and *Sept. 10, 1784*; from Thomas Barclay to Robert Morris, *Dec. 19, 1784*. Finances. f. (1).
65. **Luzerne**, Caesar Anne *de la*. Extracts from his communication to Congress on General Carleton's having communicated the determination of his court to suspend hostilities in America. f. (1).
66. **Extracts** from letters of Paul Jones —, dated Paris, *Mar. — —*; of B. Franklin and J. Adams, *Feb. 10, 17—*, "which Mr. A. Lee refused to sign," addressed to Jones; of same to same, *Mar. 26, 1784*, about prisoners taken to Holland; of Franklin to Jones, *Mar. 25, 1784*; and copy of order for distributing prize money under the French laws; of Jones, Paris, — 18, 1784, to minister of marine, about his exploits and reverses; of Jones, *Aug. 13, 1786*, to the commissioners of the board of treasury. ff. (6). (Defective at the edges.)

67. **Morris**, Robert, *Mar.* 17, 1784. Copy of letter to the President of Congress. The state of his department. Comments by A. Lee. Loans and subsidies. Condition of the finances when Mr. Morris took office. Copies of letters to — Olney, receiver for Rhode Island, *March* 24, 1784; to Daniel Jenifer, intendant of Maryland, *March* 25, 1784, on bad state of finances; to Benj. Huntington, *March* 25, 1784. "Credit on the verge of dissolution." ff. (7).
68. **Barclay**, Thomas. *July* 5, 1785. Copy of letter to Robert Morris. Franklin's and Lee's accounts. ff. (2).
69. The lowest contract for clothing the troops in 1785. f. (1).
70. **Estimate** for governmental expenses for 1786. Memorandum. f. (1).
71. **Revenue** and expenditure of Great Britain for the year 1785. Memorandum. f. (1).
72. **Memorandum** of figures. f. (1).
73. **Prices** of divers [military] articles to be delivered at Hamburg. f. (1).
74. **Franklin**, Benjamin. *Aug.* 1, 1787. Copy of letter from Philadelphia, to Samuel Osgood and Arthur Lee. Accounts of Mr. Ross, agent of the United States. f. (1).
75. **View** of the payments and debts of the several States of the United States, 1782-87. f. (1).
- 76, 77. **Return** by John Bradford of merchandise delivered to him, and memoranda regarding supplies from France. ff. (8).
78. **United States**. *Board of Treasury*. *May* 17, 1787. Printed advertisement about settling accounts of secret and commercial committees of Congress. f. (1).
- 79 to 111. **Continental Congress**, *Second*. Copy of proceedings from *Sept.* 18, 1775, to *Sept.* 10, 1777, with the subsequent action of the committee, *Oct.* 5, 1778, to arrange for the settlement of their accounts. Some comments by A. Lee are interspersed. ff. (71).
112. **Abstract** of moneys advanced to sundry persons by the secret committee on special contracts. f. (1).
- 113, 114. **Continental Congress**, *Second*. The secret committee. Account with the Treasury of the United States. f. (1).
115. **Statement** of the liquidated and loan office debt of the United States to *Dec.* 31, 1787. ff. (3).
116. **Loan** office debt of the United States, with notes on land given to the soldiers, and State debts. ff. (2).
- 117, 118. **Extracts** from Swan's Political Arithmetic. ff. (2).
119. **Virginia** — *House of Delegates*. *Jan.* 17, 1788. Statement of revenues and ordinary expenditures, with remarks by J. Hopkins, law officer for Virginia, 1789, and by Arthur Lee, who adds, "This report, I understand, was drawn up by Mr. Ronald." ff. (2).
120. **Franklin**, Benjamin. *Jan.* 1, 1788. Copy of letter from Philadelphia to the commissioners of the Board of Treasury. Vouchers of Mr. Ross's accounts. f. (1).
121. **Morris**, Robert. *Aug.* 2, 1788. Copy of letter from Philadelphia to Arthur Lee. Ross's accounts and vouchers. f. (1).
122. **United States**. *Treasury*. *Register's office*. *Apr.* 1, 1789. Fragment of accounts, signed Joseph Nourse, register. f. (1).
123. **State** of the accounts of the secret and commercial committees, with an account of the progress made in the adjustment of them.
- Signed, "Office of Audr., May 27, 1789. Ben Walker." ff. (12).
- 124 to 140. **Lee**, Arthur. A paper in Mr. Lee's hand, some sheets missing, others defective, and as arranged according to the numeration upon them, differing from the arrangement of the same as printed in Lee's *Life of Arthur Lee*, i. 243, where it is called the "Commencement of a Memoir of the American Revolution, which Mr. Arthur Lee did not live to complete. Much of what he did write has been lost, and but a mutilated scrap can be presented." Cf. also same *Life*, i 33. ff. (36).
- 141-163. **Brigham**, William. Copy of accounts with the United States, and list of "papers lodged with his accounts," dated between 1776 and 1787, with A. Lee's marginal comments. ff. (43).
- 164-187. **Morris**, Robert, and **Ross**, J. List of papers on their accounts, 1776- , with copies of letters, and orders of Congress, and marginal comments by Arthur Lee, and remarks by "Mr. Osgood." ff. (47).
188. **Morris**, Robert. Copy of note without date to President of Congress. f. (1).
189. **Morris**, Robert. Copy of note to Jesse Browne, without date. f. (1).
190. **Morris**, Robert. Copy of note, without date, to the receiver of Maryland. Copy of letter, *April* 29, 1784, to the President of Congress. ff. (2). (Imperfect — torn.)
191. **Morris**, Robert. Copies of notes to John Fitzgerald, Charles Thomson, and George Olney, receiver of Rhode Island, the last dated *June* 2, 1784. ff. (2). (Imperfect — torn.)
192. **Morris**, Robert. Copies of notes to [torn] and James Lovell, the last dated *July* 19, 1784. ff. (2). (Imperfect — torn.)
193. **Morris**, Robert. Copy of letter to the governor of R[hode Island?] ff. (2). (Imperfect — torn.)
194. **Morris**, Robert. Copy of letter to James Lovell, with comment by Arthur Lee. ff. (2). (Imperfect — torn.)
195. **Morris**, Robert. Copy of memorandum of accounts. f. (1).
- 196, 197. **Morris**, Robert. Copy of letter to commercial committee. Intentions of Mr. Francis, regarding his ship at Portsmouth. No date. ff. (4).
- 198, 199. **Morris**, Robert. Copy of letter to [torn], without date, with comments by Arthur Lee. ff. (4). (Imperfect — torn.)
200. **Copies** of papers regarding western lands. Statement of Governor of Virginia, 1754. Treaty of Lancaster, 1744. Governor of Pennsylvania's speech, 1753. Instructions of the King to Governor of Virginia, *March*, 1748-49. Land bounties to the army, 1776. Validity of charters acknowledged by various treaties, etc. Proof of the title of Virginia. List of maps. Extracts from Mr. Wharton's copy of the Journal of the Congress at Johnson Hall, *April* 29, 1765, with speeches of Sir William Johnson, the commissioner of Virginia, the sachems, etc. Extract from the King's proclamation, *Oct.* 7, 1763. Evidences of the rights of New York to the western country. President Nelson's letter to Lord Hillsborough, *Oct.* 18, 1770. Resolve of Pennsylvania Assembly, *April* 5, 1779. List of the proprietors in the Indiana Company delivered to Congress by S. Wharton. List of Vandalia proprietors, and notes regarding the Vandalia Company. Present members of the Illinois

- and Ouabache Company. Letter of John Blair, commander-in-chief of Virginia, *June* 17, 1768, to Thomas Walker. Treaty with the Six Nations in 1764. The case of Penn and Baltimore. ff. (19).
201. **Wilson**, —. Heads of his speech in supporting Mr. Morris, when the acceptance of his resignation was moved. f. (1).
202. **Lee**, Arthur. Fragment of a letter, without date, addressed to "Edward Rutlege, Esq., Charlestown, S. Carolina." ff. (2).
203. **Lee**, Arthur. Fragment of a letter, without address or date. f. (1).
204. **Lee**, Arthur. Copy of letter, without date or address. f. (2). (Imperfect.)
205. **Lee**, Arthur. Imperfect draft of letter in his hand, without date or address. f. (2).
206. **Communications** of the French minister relating to the negotiations. Brief notes of their contents. ff. (2).
207. **Mason**, George. Imperfect copy of letter to Col. Mercer, without date. "The Rubicon is passed — reconciliation with Great Britain impossible." ff. (2).
208. **Lee**, Arthur. Memoranda in his hand, relating to affairs in Paris, during his abode there. ff. (2).
209. **Copy** of a bill concerning a writ of entry, dower *cui in vita*, and alienation by tenant by the courtesy. f. (1).
210. **Lee**, Arthur. Criticism on Mr. G. Clymer's public integrity. ff. (2).
211. **Extracts** from M. Neckar's views on finances with Arthur Lee's comments, and a statement of taxes in France. ff. (2).
212. **Thoughts** on republics, and kindred topics. A paper without title and date. ff. (2).
- 213, 214. **Extracts** from various historical works. ff. (2).
215. **Memoranda** on terms of treaty, 1783. f. (1).
216. **Members** of the Bill of Rights to the lord mayor of London. A paper of thanks. ff. (2).
- 217, 218. **Statement** about Joseph Wharton's monetary speculations on the chances of war, and Mr. Thornton's complicity. Without name or date. ff. (3).
219. **Extracts** from books. f. (1).
220. **Directions** for seeing Rome in eight days, addressed to Arthur Lee. ff. (2).
221. **Address**, beginning "My dear countryman," and signed "Monitor." Agreement of non-importation. No date. ff. (2).
222. **List** of debts due Francis Lightfoot Lee. Reasons against making Treasury notes a legal tender. ff. (2).
223. "Bill declaring that wrongful disseisin is no descent in law." f. (1).
224. **A Bill** concerning process in felony. f. (1).
225. **Lee**, Thomas, *President of Virginia*. *Sept.* 29, 1750. Extract of letter to the lords commissioners of trade. f. (1).
226. **Six** points of the enemy's barbarity and perfidy. A paper, not signed, dated or entitled, but referring to events in the early part of the Revolutionary War. f. (1).
227. **Carter v. Carter**. Case stated. ff. (2).
228. **Proposals** to the farmer-general. In French, with English comment and paraphrase. ff. (2).
229. **Réponse** au ministres du Congrès. Versailles, without date. ff. (2).
230. "Etat de la marine d'Espagne. Vaisseaux de ligne." A tabular statement of, about the year 1776. ff. (2).
231. **Exports** of Marsailles, proper for the North American markets. Addressed to Ettienne Cathalan. f. (1).
232. List of F. Grand's accounts. ff. (2).
233. "Prix courant de Dragueries à Marseille." printed; filled out in manuscript. f. (1).
- 234 to 237. **Abstract** of sums due to the Register of the United States. A copy, "Sigd, Joseph Nourse, Register, F. Hardy, Acct." Comments by Arthur Lee. ff. (8).
240. **Lee**, Arthur. Fragment of a paper on John Wilkes and the Bill of Rights. f. (1). (Imperfect.)
241. **Questions** from the French court. How to engage the American commissioners not to listen to proposals from England. ff. (2).
- See Lee's Life of Arthur Lee, i. 376.
242. **Lee**, Arthur. Notes of negotiations in Holland. ff. (4). (Imperfect.)
243. **Memorandum** about Wm. Smith's land. f. (1).
244. **List** of negroes who have died at the sugar lands. *Feb.* 1, 1782.
245. **Memorandum** on the powers of State and Congress, and the granting of northwestern lands. Comments by Arthur Lee. ff. (2). (Imperfect.)
246. **Paper** concerning the Vandalia Company and their petition to Congress. ff. (2). (Imperfect.)
247. **Memorandum** of titles. f. (1).
248. **Letter** to President of Congress. A fragment. ff. (2).
249. **Heads** of arguments against the quota of Virginia. f. (1).
250. **Notes** on the barbarity of the enemy, and on the hopes of assistance from D'Estaing's fleet. ff. (2).
251. **Notes** on the conduct of wars. f. (1).
252. **Notes** in French on rights of neutrals, *etc.* f. (1).
253. **Junius Americanus**. Fragment of a letter. f. (1).
254. **Address**, to "my lord." A fragment. "The people will not dishonor their venerated English ancestry." f. (1).
255. **Political** relations of United States and Great Britain, 1783. A paper without title, partly illegible. ff. (2).
256. **Lee**, Arthur. Statement regarding his relations with Franklin, Deane, and others in Europe. ff. (2). (Imperfect.)
- 257, 258. **Lee**, Arthur, and **Digges**, —. Printed copies of letters, paged 65-72, on the case of Williams and Peltiers; and letter from — Digges, *Aug.* 30, 1773, to Arthur Lee, on Thornton, Wharton, and Izard. ff. (4). (Imperfect.)

Library of Harvard University.

BIBLIOGRAPHICAL CONTRIBUTIONS.

EDITED BY JUSTIN WINSOR,
LIBRARIAN.

No. 11.



THE ENTOMOLOGICAL LIBRARIES OF THE UNITED
STATES.

BY

SAMUEL HUBBARD SCUDDER,
ASSISTANT LIBRARIAN OF HARVARD UNIVERSITY.

REPUBLISHED FROM THE BULLETIN OF THE LIBRARY OF HARVARD UNIVERSITY,
NUMBER 14.

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1880.

Already issued or in preparation :

A Star prefixed indicates they are not yet ready.

1. EDWARD S. HOLDEN. Index-Catalogue of Books and Memoirs on the Transits of Mercury.
2. JUSTIN WINSOR. Shakespeare's Poems: a Bibliography of the Earlier Editions.
3. CHARLES ELIOT NORTON. Principal books relating to the Life and Works of Michelangelo, with Notes.
4. JUSTIN WINSOR. Pietas et Gratulatio. An Inquiry into the authorship of the several pieces.
5. LIST OF APPARATUS in different Laboratories of the United States, available for Scientific Researches involving Accurate Measurements.
6. THE COLLECTION OF BOOKS AND AUTOGRAPHS, bequeathed to Harvard College Library, by the Honorable Charles Sumner.
- *7. JAMES M. PEIRCE. References in Analytic Geometry.
- *8. CALENDAR of the Arthur Lee Manuscripts in Harvard College Library.
9. GEORGE LINCOLN GOODALE. The Floras of different countries.
- *10. JUSTIN WINSOR. Halliwelliana: a Bibliography of the Publications of James Orchard Halliwell-Phillipps.
11. SAMUEL H. SCUDDER. The Entomological Libraries of the United States.

THE ENTOMOLOGICAL LIBRARIES OF THE UNITED STATES.

BY SAMUEL H. SCUDDER.

The addition to the resources of the University of the entomological library formed by Dr. Hagen during the past fifty years, has prompted an examination of the literature of this department in the principal scientific libraries throughout the country, partly by personal study, partly by correspondence; and, as the result of the examination may prove interesting to others, it is herewith published.

The addition of Dr. Hagen's library to the Museum of Comparative Zoology makes its entomological department by far the most valuable in the country. The card catalogue has 4,279 entries, of which 3,457 represent Dr. Hagen's books, 822 the others, which are almost entirely the gift to the Museum of Professors L. and A. Agassiz. The entire library is judged by Dr. Hagen to contain about 2,000 volumes and 3,000 pamphlets.

About one third of the total space which the library occupies is filled by journals and society publications, among which may be especially noted complete sets of the older magazines, rarely seen in this country. The library is rich in works and papers on Neuroptera and Pseudoneuroptera, groups of insects which have been Dr. Hagen's special study. It contains also a very valuable series of anatomical, physiological, and biological papers; the literature of fossil insects is well represented; and a neglected field—the bibliography of entomology—is unusually perfect from the material collected by Dr. Hagen for his catalogue of 1863. It contains, too, nearly all the works and even minor papers of certain entomologists, such as Linné, Fabricius, Latreille, Thunberg, Fallén, Sahlberg, Panzer, Germar, and many others still living. Since Dr. Hagen entered the Museum, he has formed a special library for North American publications, which is separately kept and already tolerably complete.

Many rare works, and a large number of exceedingly scarce tracts, obtained as opportunity offered during the past fifty years, make the library one of exceptional value. Many of these are the only copies Dr. Hagen has ever seen, and his familiarity with the bibliography of entomology is unrivalled. Fifty years ago, he says, when he purchased his first books, the standards of the day, the cost of entomological works was scarcely one fourth the price now demanded for the same volumes, so that with less than \$10,000, it would then have been possible to form a tolerably complete library. There were then very few students and no competition, and being before the time of cheap and rapid transport, it was possible to buy French books in Germany, and German or English books in France, at very low rates; with the easier facilities of the present day, the formation of a library is a simpler, but from the greater demand and exhausted supply a far more

expensive matter. A memorandum of some of the rarer works in the library is appended.

The College Library is tolerably well represented in entomology for a general library, there being about 450 volumes and 50 or more catalogued pamphlets. These were in large measure selected while Dr. Harris was connected with the library, and mostly represent standard works. There are also in the library many costly voyages in which entomology is represented, but which are not included in this estimate.

Dr. Harris's private library, rarely duplicating works in the College Library, has come into the possession of the Boston Society of Natural History, and forms about one third of its present entomological department, which consists of about 900 volumes and nearly 550 pamphlets. The collection is a miscellaneous one; but contains some rare and valuable works cited in the appendix, and besides these may be mentioned an entire series of the tracts of Peck, Say, and Harris in their original forms. Periodical literature is also fairly represented. But the choicest part of the collection consists of its manuscript material, in which the library is exceptionally rich for North American entomology. It contains three sets of colored illustrations of Georgian insects and their transformations by Abbot (one, a small volume, and probably a copy) coming from the Harris library; another, a thick folio volume, and containing 174 sheets, from Dr. Asa Gray, originally from London; and a third, also in folio, consisting of 193 sheets painted by Abbot for Oemler of Georgia. Next, two small volumes, containing 239 sheets, the original drawings by Hentz for the illustration of his papers on the Spiders of the United States, which, though published by the Society in black, were drawn in color. Besides these, there are all the manuscripts left by Dr. Harris, collected into twenty-four volumes, mostly folios, a full account of which may be found in the Society's Proceedings (vol. xiii, pp. 167, 168).

The next largest public collection of entomological books in this vicinity is that of the Public Library of Boston, which contains about 650 volumes and 75 pamphlets. Periodical literature is very poorly represented; the greater part of the books being standard works, well selected and containing many rare and costly volumes, some not elsewhere found in this vicinity.

The Boston Athenaeum has a small and miscellaneous collection of a little more than 150 volumes and pamphlets, with one or two rare works; and the Cambridge Entomological Club one of nearly 200 volumes and about 500 pamphlets.

It may be well to include in the account of the entomological collections of this vicinity, the private of libraries Mr. Burgess and myself. Mr. Burgess's library, recently formed, contains about 150 volumes

and 300 pamphlets. The anatomy of insects, and systematic works on Diptera, are fairly represented, nearly one half of the library being devoted to these departments.

The entomological portion of my own library consists of 765 volumes and very nearly 2,000 pamphlets. There are only a few serials, the bulk of the library being made up of the less costly general works on each order, and of special collections of papers on Orthoptera, Butterflies, Fossil insects, and the anatomy, morphology, and embryology of insects. In Orthoptera and fossil insects, it contains nearly every thing now procurable, and some very scarce works. In the former, it also contains a separate collection of some thousand illustrations, separately mounted, and systematically arranged, while in anatomy, etc., it is second, in this country, only to the library of the Zoological Museum. Among others will be found complete, or very nearly complete, series of the papers of Herold, Newport, Dufour, Graber, Plateau, Brauer, Weismann, Laboulbène, Thunberg, Selys, Saussure, Stål, Brunner, Wood-Mason, Serville, Murray, A. and H. Dohrn, Girard, Hentz, Harris, Packard, Heer, Oustalet, Brodie, Heyden, Weyenbergh, and Goldenberg; and the Phylloxera papers of the French Academy.

The libraries of Salem are not rich enough in entomological works to require mention. In Providence, Dr. A. S. Packard has a collection of 470 volumes and 550 pamphlets on insects. It is fuller in systematic works on Lepidoptera, Hymenoptera, and Coleoptera than on other orders, but its special value lies in its collection of embryological and morphological papers, comprising very full series of the works of the writers on these topics mentioned in the last paragraph, as well as of Claparède, Metschnikoff, Melnikow, Ganin, Kowalewsky, etc.

The library of Yale College, New Haven, contains about 200 entomological works.

In New York, the Astor Library has about 500 volumes, of which one fourth consists of serials; it contains some costly, but few, if any, very rare works. The New York Academy of Science has a small library in this department, but I have been unable to obtain any figures concerning it.

The Society of Natural Science at Buffalo possesses somewhat over 500 volumes and nearly as many pamphlets on entomology. It is particularly well supplied with works and papers, both old and recent, on Nocturnal Lepidoptera, which have formed the special study of Mr. Grote, the principal officer of the society.

The entomological library at Cornell University has about 150 volumes and 50 pamphlets.

In Philadelphia, we find another entomological centre. The largest library is perhaps that of the American Entomological Society; it is said to consist of 1,728 volumes and 336 pamphlets; but these figures include a considerable number of periodical and other works on general natural history, preserved for the sake of the entomological matter they contain, and may not fairly be compared with the others. Serial entomological publications (at least existing-ones) are very completely represented, and there are many costly works.

This library is now in the hall of the Academy of Natural Sciences, which itself possesses 956 volumes on strictly entomological subjects, and 554 pamphlets; all the departments are about equally well represented, but many works are necessarily duplicated in the collection last mentioned, and both owe much of their value to the generosity of the late Dr. T. B. Wilson. The library contains a number of letters written by Say to Melsheimer, from 1813 to 1825.

Dr. J. L. LeConte, of Philadelphia, estimates his private library to consist of about 700 volumes and 800 pamphlets, and it is undoubtedly the most complete library for Coleoptera in the country, very few papers on American beetles being wanted. It is full in this order only, but contains nearly every thing in the shape of monographs, besides many formal works and series of transactions. There are many rare old works, which are of no special use for reference, but valuable as bibliographical curiosities, being scarcely ever met with on sale. It also contains the working copy of the elder Melsheimer's catalogue of U. S. Coleoptera, full of marginal notes, and other interesting relics; and also an immense collection of original drawings,—several thousand in number, of insects of all orders found in the Atlantic States, made principally by Major John LeConte (Dr. LeConte's father) and partly by Abbot, whom he employed as a collector and draughtsman.

In Baltimore, the library of the Peabody Institute has over 800 volumes and about 200 separate pamphlets on entomology. It contains complete series of many entomological journals, and otherwise consists mainly of standard works, well selected, as would be expected with Messrs. Morris and Uhler's supervision. There are few rare books in it, but the more costly and expensive works are well represented. Mr. P. R. Uhler's private library in the same city consists of over 300 volumes and about 500 pamphlets on insects, selected with special reference to Mr. Uhler's specialty, the Hemiptera, but not inconsiderable in other directions, and particularly in Coleoptera and Neuroptera; it is mostly confined to systematic works.

I have been unable to obtain any figures concerning the Congressional Library in Washington, which must be of considerable value, particularly as it includes that of the Smithsonian Institution. Mr. Riley has, however, kindly supplied some notes about it. In serial publications it is, of course, rich; and in miscellaneous works it has a complete collection of entomological books published in America. In foreign works, however (excepting in serials), it is comparatively poor.

The library of the entomological division of the department of Agriculture contains about 300 volumes, mostly selected on account of their absence from the Congressional Library, and consisting of standard works. It contains the only complete colored copy of Mr. Glover's plates of American insects; and the general library of agricultural works includes many works embracing papers on applied entomology. Special mention may be made of a complete set of the Gardiner's Chronicle of London, in which are many articles by Westwood.

The private library of Mr. C. V. Riley, of Washington, contains about 700 volumes of purely entomological books and about 3,000 pamphlets, nearly all of which are directly entomological. It is especially rich in biological papers and such as illustrate the economic bearings of the science. Several of the late Mr. Walsh's books are found here with his marginal notes. Mr. Riley has paid particular attention to the fugitive literature of entomology, and has 22 scrap-books filled with nearly every thing that has appeared on insects during the last twelve years in agricultural and other papers,—articles mostly of an economic character, and generally overlooked in bibliographies.

This review clearly shows the great advantages to an entomologist of a residence in this vicinity, where the bibliographical aids to study equal, if they do not surpass, those of the rest of the country combined.

LIST OF SOME OF THE RARER WORKS FOUND IN THE DIFFERENT LIBRARIES OF THIS VICINITY.

B.A. = Boston Athenæum.
H.C. = Harvard College Library.

M.Z. = Museum of Comparative Zoology.
N.H. = Boston Society of Natural History.

P.L. = Boston Public Library.
S.H.S. = S. H. Scudder's Library.

1. **Abbot and Smith.** History of the rarer lepidopterous insects of Georgia. London. 1797. 2 vol. 4^o. **H.C. N.H. P.L.**

Copies also exist in the Congressional library and the libraries of Buffalo and Baltimore.

2. **Albin.** Natural history of English insects. London. 1749. 4^o. **N.H.**

There is also a copy in the Congressional library, and one of text only in **M.Z.**

3. **Billberg.** Enumeratio insectorum. Holmiae. 1820. 4^o. **M.Z. S.H.S.**

A very rare work, found, according to Dr. Hagen, in no library of Europe outside of Sweden.

4. **Blankaart.** Schauplatz der raupen, würmer, maden und fliegende thiergen. Leipzig. 1690. 8^o. **M.Z.**

The Dutch original was published in 1688. A second part remains in MS. in the library at the Hague; Snellen has published a list of its contents, and a copy of this is appended to the work in Dr. Hagen's library.

5. **Boisduval, Rambur, et Graslin.** Chenilles d'Europe. Paris. 1832-43. 8^o. **P.L. S.H.S.**

6. **Borelli.** De motu animalium. Romae. 1680-81. 2 vol. 4^o. **M.Z.**

The 2d ed. Leyden, 1685, is in **H.C.**

7. **Charleton.** Onomastikon zoikon. Londini. 1761. 4^o. **M.Z.**

8. **Clutius.** Opuscula duo singularia. Amsterodami. 1634. 4^o. **M.Z.**

A very rare work.

9. **Coquebert.** Illustratio iconographica insectorum. Parisiis. 1799-1804. 4^o. **M.Z. N.H. P.L.**

There is also a copy in the Peabody institute, Baltimore. The greater part of the edition was destroyed by fire, and the work has thereby become rare.

10. **Cornalia.** Monografia del bombyce del gelso. Milano. 1856. 4^o. **S.H.S.**

11. **Crell.** Disputatio de locustis, non sine prodigio in Germania nuper conspectis. Lipsiae. 1693. 4^o. 28 pp. unpagued **S.H.S.**

12. **Curtis.** British entomology. London 1832-40. 16 v. 8^o. **M.Z. P.L.**

There are also copies in the Peabody institute and the Astor library. That of the Museum is one of the early copies, now scarce, and the coloring of which is superior to that of later copies.

13. **Doubleday and Westwood.** Genera of diurnal lepidoptera. London. 1846-52. 2 v. 4^o. **B.A. N.H. P.L.**

Copies are also in the Congressional library and the Peabody institute. Mr. B. P. Mann has an imperfect copy. Dr. Harris's copy is in the possession of his son, Mr. Edward Doubleday Harris.

14. **Ernst et Engramelle.** Papillons d'Europe. Paris. 1779-93. 8 v. 4^o. **M.Z.**

There is also a copy in the library of the American academy of arts and sciences, Boston.

15. **Esper.** Die ausländischen schmetterlinge. Erlangen. 1785-91 (1801). 4^o. **P.L.**

The Society at Buffalo also possesses a copy.

16. **Evans.** British libellulinae, or dragon flies. London. 1845. 8^o. **M.Z.**

Privately printed.

17. **Fichtelberger.** Heu! schrecken! von heuschrecken. St. Annaberg. 1693. 4^o. 32 pp., unpagued. **S.H.S.**

18. **De Geer.** Mémoires pour servir à l'histoire des insectes. Stockholm. 1752-58. 7 v. 4^o. **B.A. P.L.**

Copies may also be found at the Astor library and Peabody institute.

19. **Glabach.** Beschreibung neuer europäischer schmetterlingen. Frankfurt. 1777. 4^o. **M.Z.**

According to Dr. Hagen, only three copies are known.

20. **Gray.** Notices of insects that are known to form the bases of fungoid parasites. London. 1858. 4^o. **M.Z. S.H.S.**

Only a small edition was printed and privately distributed by the author, whose name appears only by the initials G. R. G.

21. **Hartmann.** Succini prussici physica et civilis historia. Francofurti. 1677. 8^o. **M.Z. S.H.S.**

Very rare.

22. **Hebenstreit.** De locustis immenso agmine aerem nostrum implentibus. Jenae. 1693. 4^o. **M.Z. S.H.S.**

Prange is not mentioned as author in either copy. Cf. Hagen's Bibl., I. 351.

23. **Hoefnagel.** Archetypa studiaeque patris. Francofurti. 1592. Oblong 4^o. **M.Z.**

This copy is a very great rarity, printed on thin, pale pink paper, with a water-mark of Mercury's staff and snakes, differing from the ordinary copies. It is the only copy known to Dr. Hagen certainly colored at the time of original issue; a colored copy in Von Heyden's library was apparently painted at a later date. A third copy is quoted by Brunet, but has not been seen by Dr. Hagen (See Hagen's Bibl., I. 371). This is the first illustrated colored work on entomology ever printed.

Dr. Hagen's copy is, however, defective in lacking eighteen of the fifty-two plates. The originals of Hoefnagel's plates, painted on parchment, still exist in the museum at Oxford, — formerly in the library of Disraeli, the father of Earl of Beaconsfield.

24. **Hoefnagel.** Diversae insectarum volatilium icones. (Amsterdam.) 1630. Oblong 4^o. **M.Z.**

This work, also from Dr. Hagen's library, is even much rarer than the plain copies of the preceding. From 1840 to 1867 only a single copy was quoted for sale; since then, according to Dr. Hagen, two have appeared on antiquarian catalogues, but one of them falsified by the introduction of some plates from the preceding work, the insects figured in the two being the same.

25. **Hübner.** Beiträge zur geschichte der schmetterlinge. Augsburg. 1786-89. 2 v. 8^o. **P.L. S.H.S.**

The only copy known to exist, from which my reprint of 1873 was taken.

26. **Hübner.** Sammlung europäischer schmetterlinge. Augsburg. 1805-24. 3 v. 4^o. **P.L.**

27. **Hübner.** Geschichte europäischer schmetterlinge. Augsburg. 1806-18. 4^o. **P.L.**

28. **Hübner.** Sammlung exotischer schmetterlinge. Augsburg. 1806-24. 3 v. 4^o. **H.C. S.H.S.**

There is also a copy at Buffalo. My copy of this and the following works of Hübner came from the library of Breilsson, and appear to have been those of an original subscriber.

29. **Hübner.** Tentamen determinationis... lepidopterorum [Augsburg, 1806?] **S.H.S.**

The only copy known to exist, from which my reprint of 1873 was taken.

30. **Hübner.** Beiträge zur sammlung exotischer schmetterlinge. Augsburg. 1818-37. 4^o. **H.C. S.H.S.**

There is also in my library a pamphlet without title (4 pp. 4^o), giving names to a part of the insects in the first century of the Beiträge, often differing from those of the Beiträge, and evidently preceding it in date: perhaps it formed part of a prospectus of that work.

31. **Hübner.** Index exoticorum lepidopterorum. Augustie Vindelicorum. 1821. 4^o. **S.H.S.**

32. **Hübner.** Systematisch-alphabetisch verzeichniss. Augsburg. 1822. 8^o. **P.L. S.H.S.**

33. **Linné.** Dissertationes. A complete set of

the 186 dissertations afterwards published in the *Amoenitates academicae*. 8 v. 4^o. **M.Z.**
 Dr. Hagen says the original copies are of great rarity, a complete set existing elsewhere, so far as he knows, only in Stockholm and Upsala. Dr. Hagen's copy was collected by Afzelius, a pupil of Linné's, and several of them bear Linné's autograph. A high price has been offered for this copy, which contains all the original plates, some of which—that, for instance, of the Pandora insectorum—being far rarer than the dissertations which contain them.

34. **Macleay**. *Horae entomologicae*. London. 1819-21. 2 v. 8^o. **S.H.S.**
 Extremely rare; as nearly the whole edition was burned. It contains the fullest exposition of the author's "quinary system of oature."

35. **Majolus**. *Simonis Majoli Ostensis episcopi vulturariensis dierum canicularium*, tom. vii., etc. Francfurti. 1642. fo. **M.Z.**
 Very rare; originally published in 1600, in 4^o.

36. **Malpighi**. *Dissertatio epistolica de bombyce*. Londini. 4^o. **H.C. M.Z. P.L.**

37. **Melsheimer**. *Catalogue of the insects of Pennsylvania*. Hannover. 1806. 12^o. **M.Z.**
 Extremely rare; also in Dr. Leconte's library.

38. **Metaxa** (Liugi) e **Rolli**. *Osservazioni naturali intorno alle cavallette nocive della campagna romana*. Roma. 1825. 4^o. **S.H.S.**
 The principal author's name is wrongly given as Telemaco by Hagen, who had not seen the work.

39. **Möller**. *Meditatio de insectis quibusdam Hungaricis*. Francfurti. 1673. 12^o. **M.Z.**
 Very rare.

40. **Moufet**. *Insectorum sive minimorum animalium theatrum*. Londini. 1634. Sm. fo. **H.C. M.Z. N.H.**
 Also in the Congressional library.

41. **New England Farmer**. The volumes or numbers containing the papers of Dr. Harris are in **H.C. M.Z. N.H. S.H.S.**

42. **Newport**. Collections of his anatomical and physiological papers, nearly complete, will be found in my library, and in that of Dr. Packard, in Providence.

43. **Olearius**. *Gottorffische kunstammer*. Schleswig. 1674. 4^o. **M.Z.**

44. **Olivier**. *Entomologie; coléoptères*. Paris. 1789-1808. 8 v. 4^o. **H.C. M.Z. N.H. P.L.**
 There is also a copy at the Peabody institute.

45. **Palisot de Beauvois**. *Insectes recueillis en Afrique et en Amérique*. Paris. 1805-21. fo. **H.C.**
 An imperfect copy. There is also a copy at Baltimore.

46. **Panzer**. *Fauna insectorum Germanicae initia*. Nürnberg. 1793-1844. 190 fasc., oblong 8^o. **M.Z.**
 Complete, with all the additions and catalogues. It is probably the only copy in the country.

47. **Peters**. *Naturwissenschaftliche reise nach Mozambique. Insecten und myriopoden*. Berlin. 1862. 4^o. **M.Z.**
 Presumed to be the only copy in the country.

48. **Poey**. *Centurie de lépidoptères de l'île de Cuba*. Paris. 1833. 8^o. **S.H.S.**
 Very scarce.

49. **Quinones**. *Tratado de las langostas*. Madrid. 1820. 4^o. **B.A. M.Z. S.H.S.**
 Very rare.

50. **Ray**. *Historia insectorum*. Londini. 1710. 4^o. **M.Z.**
 Dr. Hagen considers this the only copy in the country.

51. **Rambur**. *Faune entomologique de l'Andalousie*. Paris. 1842. 2 v. 8^o. **S.H.S.**
 I possess only the second and rarer volume, containing all excepting the coleoptera. Most of the copies placed on sale were withdrawn by the author, and only a few found in his possession at his dea h. According to Staudinger, vol. ii. pp. 305-36 (in my copy) were never published by Rambur.

52. **Rambur**. *Catalogue systématique des lépidoptères de l'Andalousie*. Paris. 1858-66. 2 livr., forming partie I. **S.H.S.**

The second *livraison* does not appear to have been issued before 1870, and contains four plates of a third part, never published.

53. **Roberg**. *De libella insecto lacustri et alato*. Upsaliae. 1732. 4^o. **M.Z.**
 Very rare.

54. **Roesel**. *Monatliche insecten-belustigung*. Nürnberg. 1746-61. 4 v. 4^o. **M.Z. H.C. P.L.**
 I have also an imperfect copy, and copies are in Brown university, the Peabody institute, and Mr. C. V. Riley's library. The Dutch translation is also in the Public library of Boston. Dr. Hagen's copy is one in which the earlier parts were colored by Roesel himself before he was ennobled. These are now rather scarce.

55. **Rondelet**. *Libri de piscibus marinis*. Lugduni. 1554-55. 2 v. fo. **M.Z.**
 Rare, especially the second volume.

56. **Savigny**. *Description de l'Égypte (50 plates of insects)*. Paris. 1809-13. Elephant fo. **H.C. S.H.S.**
 Also in Dr. Packard's library and that of the Peabody Institute; doubtless in others.

57. **Say**. *American entomology*. Philadelphia. 1817. 8^o. **M.Z.**
 This preliminary part, issued many years before the first volume bearing the same title, is exceedingly rare,—"never properly published," says Say himself. Only one other copy is known in this country,—in the library of Dr. Le Conte.

58. **Say**. *Descriptions of new species of North American insects, and observations on some of the species already described*. New Harmony. 1829-33 [1830-34]. 8^o. **N.H. S.H.S.**
 One of the rarest of Say's New Harmony pamphlets, since twice republished: typographically, one of the most irregular pamphlets ever issued.

59. **Schiffmüller**. *Systematisch verzeichniss der schmetterlinge der wiener gegend*. Wien. 1776. 4^o. **M.Z. S.H.S.**
 Probably the only copies of the author's edition in the country. I have also the edition of 1775, which is given as a separate work by Hagen, but which differs from the later only in the date on the two title-pages, a different frontispiece, and a preliminary title-page: *Ankündigung eines systematischen werkes von den schmetterlingen der wiener gegend*. 1775. (Cf. Hagen, *Bibl.* 11. 122.)

60. **Sepp**. *Surinaamische vlieders*. Amsterdam. 1848-55. 3 v. 4^o. **N.H.**

61. **Stroem**. *Physik och oeconomisk beskrivelse over fogderiet Söndmör*. Soræ. 1762. 4^o. **M.Z.**

62. **Thunberg**. *Dissertationes*. Upsaliae. 1781-1828.
 A very nearly complete set of his entomological papers, some of them very scarce, will be found in **M.Z. S.H.S.**

63. **Uddman**. *Novae insectorum species*. Aboae. 1753. 4^o. **M.Z.**
 Very rare.

64. **Villiers et Guenée**. *Tableaux synoptiques des lépidoptères d'Europe*. Paris. 1835. 4^o. **S.H.S.**
 Rarely obtainable; and not elsewhere in this country, unless in Philadelphia.

65. **Walker**. *Diptera britannica*. London. 1851-56. 3 v. 8^o. **S.H.S.**
 Scarce. Also in Mr. E. Burgess's library.

66. **Wigand**. *Vera historia de succino borassico*. Jenae. 1590. 8^o. **M.Z.**
 According to an inscription made in this copy a century ago, this was even then "liber perrarus."

67. **Wotton**. *De differentiis animalium libri decem*. Lutetiae Parisiorum. 1552. fo. **M.Z.**
 Rare, and the only copy known to exist in the country.

68. **Zanghi** (Paolo). *Delle cavallette e del modo di distruggerle, opera in circostanza della invasione avvenuta nella provincia di Caltanissetta nel 1832*. Palermo. 1835. 16^o pp. (6), 171. **S.H.S.**
 Not mentioned in Hagen's *Bibliogr*.

69. **Zinnani**. *Delle nova e dei nodi degli uccelli libro primo; osservazioni giornali sopra la cavallette*. Venezia. 1737. 4^o. **M.Z. S.H.S.**
 Very rare.



CONNELL
UNIVERSITY
LIBRARY

Library of Harvard University.

BIBLIOGRAPHICAL CONTRIBUTIONS.

EDITED BY JUSTIN WINSOR,
LIBRARIAN.

No. 12.



LIST OF THE PUBLICATIONS OF HARVARD UNIVERSITY AND ITS OFFICERS, 1870-1880.

CAMBRIDGE, MASS.:
UNIVERSITY PRESS: JOHN WILSON AND SON.
1881.

BIBLIOGRAPHICAL CONTRIBUTIONS

Already issued or in preparation :

A Star prefixed indicates they are not yet ready.

1. EDWARD S. HOLDEN. Index-Catalogue of Books and Memoirs on the Transits of Mercury.
2. JUSTIN WINSOR. Shakespeare's Poems: a Bibliography of the Earlier Editions.
3. CHARLES ELIOT NORTON. Principal books relating to the Life and Works of Michelangelo, with Notes.
4. JUSTIN WINSOR. Pietas et Gratulatio. An Inquiry into the authorship of the several pieces.
5. LIST OF APPARATUS in different Laboratories of the United States, available for Scientific Researches involving Accurate Measurements.
6. THE COLLECTION OF BOOKS AND AUTOGRAPHS, bequeathed to Harvard College Library, by the Honorable Charles Sumner.
- *7. JAMES M. PEIRCE. References in Analytic Geometry.
- *8. CALENDAR of the Arthur Lee Manuscripts in Harvard College Library.
9. GEORGE LINCOLN GOODALE. The Floras of different countries.
10. JUSTIN WINSOR. Halliwelliana: a Bibliography of the Publications of James Orchard Halliwell-Phillipps.
11. SAMUEL H. SCUDDER. The Entomological Libraries of the United States.
12. LIST OF THE PUBLICATIONS of Harvard University and its Officers, 1870-1880.
- *13. SAMUEL H. SCUDDER. A Bibliography of Fossil Insects.

. The present list has been prepared from the responses to the following circular:—

CAMBRIDGE, GORE HALL, Jan. 24, 1881.

DEAR SIR,—

It is proposed to print a list of the publications of the officers of instruction and government in the University (including librarians, curators, demonstrators, and assistants, together with instructors annually appointed), for the Academic years 1870-71 to 1879-80, both inclusive; that is, from Sept. 29, 1870, to Sept. 30, 1880.

I am directed by the President to request your co-operation in making this list accurate and complete by furnishing me with the titles of the publications made by you during the term of your service, so far as it falls within the period named, and the titles of such other of your publications, if any, as may be said to have grown out of your work in the University, though published after your connection with it ceased.

The classes of works intended are these:—

1. Independent works as author or editor.
2. Joint works as author or editor.
3. Contributions, bearing the author's name, to serial, periodical, or occasional publications, including transactions of learned societies.
4. Lectures delivered within or without the University, which have been subsequently printed.

As it is intended to give a separate list of the contents of the Annals of the Observatory, the Memoirs and Bulletin of the Museum of Comparative Zoölogy, the Reports of the Peabody Museum, the Library Bulletin, and the Bulletin of the Bussey Institution, contributions to these publications of the University need not be enumerated.

Very truly yours,

JUSTIN WINSOR, *Librarian of the University.*

OFFICIAL PUBLICATIONS.

** THESE titles are those of publications issued by the different departments of the University, during the period 1870-1880, with the addition of such volumes of the publications of the Astronomical Observatory and Museum of Comparative Zoölogy as were printed before 1870. This departure from the strict limits of the period has been made because the volumes dated before 1870 are few in number, and there is manifest convenience in making such a list complete. Contributions by officers of the University in these official publications are not included in the lists given on later pages under their respective names.

ARNOLD ARBORETUM.

Report of the Director of the Arnold Arboretum to the President and Fellows of Harvard University. By C. S. Sargent. 8°. Salem. 1874. pp. 16.

Dated Dec. 1874. Also printed in the Bulletin of the Bussey Institution.

Annual Report of the Director of the Arnold Arboretum to the President and Fellows of Harvard College for 1879-80. By C. S. Sargent. 8°. Cambridge. 1881. pp. 2, 7, map.

The body of this report (pp. 1-3) is appended to the annual reports of the President and Treasurer of Harvard College.

*** These are the only reports which have been separately printed; but since 1875 they have appeared in the annual reports of the President, etc., sometimes in connection with the report on the Botanic Garden; and that for 1875, with the addition of appendices, in the Bulletin of the Bussey Institution.

ASTRONOMICAL OBSERVATORY.

Annals of the Astronomical Observatory of Harvard College. Vol. 1-12. 1852-1880. 4°. Cambridge and Leipzig. 1855-80.

Contents.—i. Part 1, 1856. pp. (6), 191. —(1.) History and description of the Observatory. pp. 1-55, figs. —(2.) Appendix, containing reports of the committee appointed by the overseers of the University at Cambridge to examine the Observatory, for the academic years 1845-55, including reports of the Director, W. C. Bond: 1845-46, pp. 67-112, fig.; 1846-47, pp. 113-122; 1847-48, pp. 122-132; 1848-49, pp. 132-140; 1849-50, pp. 140-150; 1850-51, pp. 151-160; 1851-52, pp. 160-167; 1852-53, pp. 168-174; 1853-54, pp. 174-182; 1854-55, pp. 183-191. —Part 2, 1855. t.p., pp. 97, 317, fig. Results of Astronomical observations made under the direction of W. C. Bond; G. P. Bond, C. W. Tuttle, assistants. Zone catalogue of 5,500 stars situated between the equator and $0^{\circ}20'$ north declination, observed during the years 1852-53.

ii. Part 1, 1857. pp. 6, 136, pl. (31). Observations on the planet Saturn, made with the twenty-three-foot equatorial at the Observatory of Harvard College, 1847-57. By W. C. Bond. — Part 2, 1867. pp. 6, 257. Results of astronomical observations made under the direction of W. C. Bond; G. P. Bond, assistant. Zone catalogue of 4,484 stars situated between $0^{\circ}20'$ and $0^{\circ}40'$ north declination, observed during the years 1854-55.

iii. 1862. pp. 20, 372, pl. 49, figs. Account of the great comet of 1858. By G. P. Bond.

iv. Part 1, 1863. pp. (6), 32. A catalogue of standard polar and clock stars, for the reduction of observations in right ascension. By T. H. Safford. — Part 2, 1878. pp. 19, 143. Right ascensions of 505 stars determined with the east transit circle, 1862-65. By T. H. Safford.

v. 1867. pp. 26, 189, pl. (3). Observations upon the great nebula of Orion. By G. P. Bond; edited by T. H. Safford.

vi. 1872. pp. (6) 303. Results of astronomical observations made under the direction of W. C. Bond; G. P. Bond, assistant. Zone catalogue of 6,100 stars situated between $0^{\circ}40'$ and $1^{\circ}0'$ north declination, observed during the years 1859-60.

vii. 1871. pp. 22, portr., pl. 112. Observations of solar spots, 1847-49. By W. C. Bond.

viii. Results of observations made or directed by W. C. Bond, G. P. Bond, and J. Winlock. Part 1, 1876. pp. 8, 65, pl. 10, 6. Historical account of the Astronomical Observatory of Harvard College from October, 1855, to October, 1876 (including a paper on the Structure of the surface of the moon, by N. S. Shaler. pp. 50-53.) — Part 2, 1876. t.p., pp. 8, 7, pl. 35. —(1) Astronomical engravings of the moon, planets, etc., prepared under the direction of J. Winlock. pp. 8, pl. 23. —(2) Astronomical engravings illustrating solar phenomena, prepared under the direction of J. Winlock. pp. 7, pl. 12.

- ix. Leipzig. 1878. pp. 6, 181, pl. (3). Observations made under the direction of J. Winlock. Photometric researches, made in the years 1872-75. By C. S. Peirce.
- x. 1877. pp. 89, 239, pl. 6. — 1. Observations made with the meridian circle during the years 1871 and 1872, under the direction of J. Winlock. By W. A. Rogers. pp. 9-89, 1-227. — 2. Catalogue III. Catalogue of stars in right ascension observed during the years 1867 and 1868, with the transit circle. [By E. P. Austin]. pp. 229-239.
- xi. 1879. pp. 8, 318. Photometric observations made principally with the equatorial telescope of fifteen inches aperture during the years 1877-79. By E. C. Pickering, aided by A. Searle and W. Upton.
- xii. 1880. pp. 92, 271. Observations made with the meridian circle during the years 1874 and 1875, and prepared for publication under the direction of J. Winlock and E. C. Pickering. By W. A. Rogers.

Report of the Committee of the Overseers of Harvard College appointed to visit the Observatory in the years 1859-64, together with the Report of the Director. 6 nos. 8°. Boston. 1860-65.

1859, 24 pp.; 1860, 23 pp.; 1861, 36 pp.; 1862, 37 pp.; 1863, 27 pp., — all by G. P. Bond; 1864, 28 pp., — by T. H. Safford. Earlier reports were published in the first volume of the *Annals*.

Annual Report of the Director of Harvard College Observatory, presented to the Visiting Committee, 1877-80. By E. C. Pickering. 4 nos. 8°. Cambridge. 1877-81.

1877, 36 pp.; 1878, 14 pp.; 1879, 14 pp.; 1880, 17 pp.

Standard Public Time [by L. Waldo]. 12 pp. 8°. Cambridge, 1877.

BUSSEY INSTITUTION.

Bulletin of the Bussey Institution, Jamaica Plain, Boston. Vols. 1-2. 8°. Cambridge. 1874-78.

Contents. i. pp. 4, 470, pl. 6. Part 1, 1874, pp. 1-80; part 2, 1874, pp. 81-184; part 3, 1874, pp. 185-284; part 4, 1875, pp. 285-372; part 5, 1876, pp. 373-470, pl. 1-6. — History and description of the Bussey Institution, 1-7. — 1. Report of results of examination of commercial fertilizers. By F. H. Storer. pp. 8-24. — 2. Record of results obtained on analyzing American shorts and middlings, with remarks on the composition of bran. By F. H. Storer. pp. 25-39. — 3. The humane destruction of animals. By D. D. Slade. pp. 40-49, figs. — 4. Agricultural value of the ashes of anthracite. By F. H. Storer. pp. 50-79. — 5. Record of trials of fertilizers upon the plain-field of the Bussey Institution; first report, results obtained in 1871. By F. H. Storer. pp. 80-102. — 6. *The same*; second report, results obtained in 1872. By F. H. Storer. pp. 103-115. — 7. *The same*; third report, results obtained in 1873, with a review of the three years' course of experiments. By F. H. Storer. pp. 116-170. — 8. Analyses of several foreign superphosphates of lime, with remarks on the cost of importing superphosphates from Europe. By F. H. Storer. pp. 170-184. — 9. On the valuation of soluble phosphoric acid in superphosphate of lime. By F. H. Storer. pp. 185-190. — 10. Average amounts of potash and phosphoric acid in wood ashes from house-fires. By F. H. Storer. pp. 191-251. — 11. On the importance as plant-food of the nitrogen in vegetable mould. By F. H. Storer. pp. 252-285. — 12. Applied zoölogy; the importance of its study to the practical agriculturist. By D. D. Slade. pp. 286-292. — 13. Report of the Director of the Arnold Arboretum, presented to the President and Fellows of Harvard University. By C. S. Sargent. pp. 293-299. — 14. Record of trials of fertilizers upon the plain-field of the Bussey Institution; fourth report, results obtained in 1874. By F. H. Storer. pp. 300-318. — 15. The potato-rot. By W. G. Farlow. pp. 319-338, figs. — 16. Report on analyses of salt-marsh hay and bog hay. By F. H. Storer. pp. 339-361. — 17. On the fodder-value of apples. By F. H. Storer. pp. 362-372. — 18. Composition of date-stones and of the stones of peaches and prunes. By F. H. Storer. pp. 373-377. — 19. Analyses of potassic fertilizers. By F. H. Storer. pp. 378-397. — 20. On the occurrence of ammonia in anthracite. By F. H. Storer. pp. 398-403. — 21. Disease of olive and orange trees, occurring in California in 1875. By W. G. Farlow. pp. 404-414. — 22. American grape-vine mildew. By W. G. Farlow. pp. 415-429. — 23. List of fungi found in the vicinity of Boston. By W. G. Farlow. pp. 430-439. — 24. The black knot. By W. G. Farlow. pp. 440-454, pl. 1-6. — 25. Report of the Director of the Arnold Arboretum, presented to the President and Fellows of Harvard University. By C. S. Sargent. pp. 455-458.

ii. pp. 252, pl. 1. Part 1, 1877, pp. 1-80; part 2, 1877, pp. 81-160, pl. 1; part 3, 1878, pp. 161-252. — 1. The art of the farrier. By D. D. Slade. pp. 1-6. — 2. On the amounts of potash and of phosphoric acid in several kinds of rocks. By F. H. Storer. pp. 7-25. — 3. On the agricultural value of spent dye-woods and tan. By F. H. Storer. pp. 26-50. — 4. On the composition of buckwheat straw. By F. H. Storer. pp. 51-57. — 5. On the fertilizing power of roasted leather. By F. H. Storer. pp. 58-71. — 6. Notes of experiments in which buckwheat plants were watered with solutions of peat in alkalis. By F. H. Storer. pp. 72-74. — 7. Remarks on some algæ found in the water supplies of the city of Boston. By W. G. Farlow. pp. 75-80. — 8. On the composition of certain pumpkins and squashes. By F. H. Storer. pp. 81-93. — 9. A record of results obtained on analyzing the seeds of broom-corn. By F. H. Storer. pp. 94-105. — 10. Notes on some common diseases caused by fungi. By W. G. Farlow. pp. 106-114, pl. — 11. A record of analyses of several weeds that are occasionally used as human food. By F. H. Storer. pp. 115-129. — 12. On the chemical composition of blue joint-grass (*calamagrostis canadensis*), as contrasted with that of red canary grass (*phalaris arundinacea*). By F. H. Storer. pp. 130-136. — 13. Remarks on American fodder rations, with hints for

the improvement of some of them. By F. H. Storer. pp. 137-158. — 14. Results obtained on growing buckwheat in equal weights of pit-sand and of coal ashes. By F. H. Storer. pp. 159-160. — 15. The hybridization of lilies. By F. Parkman. pp. 161-165. — 16. On the chemical composition of the common field horse-tail or scouring-rush (*equisetum arvense*). By F. H. Storer. pp. 166-175. — 17. Results of a chemical examination of the shells of crabs and lobsters, and of those of oysters, clams, mussels, and other shell-fish. By F. H. Storer. pp. 176-194. — 18. On the prominence of carbonate of lime as a constituent of solutions obtained by percolating dry cultivable soils with water. By F. H. Storer. pp. 195-221. — 19. Supplementary note to an article on the composition of pumpkins. By F. H. Storer. pp. 221-223. — 20. List of fungi found in the vicinity of Boston; part 2. By W. G. Farlow. pp. 224-252.

LIBRARY OF THE UNIVERSITY.

Bulletin of more important accessions, with Bibliographical Contributions: —

Vol. i. includes Nos. 1 to 13, 1875-79, pp. iv. 378. 8°. Nos. 1 to 5 consist of lists of accessions to the college library only. Those added to the departmental libraries are included in later numbers, which also contain bibliographical papers, of which the most extended are as follows: —

H. C. Lodge on "American History," in Nos. 6 and 7.

Justin Winsor on "Puritans and Separatists," in no. 7; on the "Pilgrims at Plymouth" and "Thomas à Becket" in no. 8; on "The Great Council for New England and Massachusetts Bay," in nos. 9 and 10; on "Early Globes" in no. 10; on "The Cosmographical labors of Sebastian Münster" and "The Antinomian Controversy in New England" in no. 11; on "Edmund Spenser and Early Editions of his Poems," in no. 12.

Charles F. Dunbar on "Gold and Silver," in no. 7.

Ezra Abbot on "Theological Books," in no. 7.

Ephraim Emerton on "The History of the Empire and the Papacy, 1056-1122," in no. 7.

Wolcott Gibbs on "Thermodynamics," in no. 9.

Vol. ii. begins with no. 14, 1880, and with no. 18 the publication became "The Harvard University Bulletin." The first four numbers contain, beside the lists of accessories, etc., the following bibliographical papers: —

Justin Winsor on "The Character of the Gracchi," in no. 14; on the "Character of Seneca," in no. 15.

Ivan Panin on "Russian Nihilism," in nos. 16 and 18.

Wolcott Gibbs and John Trowbridge on "Suggestions of Students' Work in Physics," in no. 17.

** The Bulletin has also contained various papers, which, issued separately, constitute the series next named.

Bibliographical Contributions, edited by Justin Winsor, Librarian.

** These papers, after appearing in sections in the Bulletin of the Library, have been printed separately; but those marked with a star, not being yet completed in the Bulletin, have not appeared separately. They are: —

1. EDWARD S. HOLDEN. Index-Catalogue of Books and Memoirs on the Transits of Mercury.
2. JUSTIN WINSOR. Shakespeare's Poems: a Bibliography of the Earlier Editions.
3. CHARLES ELIOT NORTON. Principal Books relating to the Life and Works of Michelangelo, with Notes.
4. JUSTIN WINSOR. Pietas et Gratulatio. An Inquiry into the authorship of the several Pieces.
5. LIST OF APPARATUS in different Laboratories of the United States, available for Scientific Researches involving Accurate Measurements.
6. THE COLLECTION OF BOOKS AND AUTOGRAPHS, bequeathed to Harvard College Library by the Honorable Charles Sumner.
- *7. JAMES M. PEIRCE. References in Analytic Geometry.
- *8. CALENDAR of the Arthur Lee Manuscripts in Harvard College Library.
9. GEORGE LINCOLN GOODALE. The Floras of different countries.
10. JUSTIN WINSOR. Halliwelliana: a Bibliography of the Publications of James Orchard Halliwell-Phillips.
11. SAMUEL H. SCUDDER. The Entomological Libraries of the United States.
12. A LIST OF THE PUBLICATIONS of Harvard University and its Officers. 1870-1880. (Separate only.)
- *13. SAMUEL H. SCUDDER. A Bibliography of Fossil Insects.

Special Publications. I. Catalogue of Scientific Serials of all Countries, including the transactions of learned societies in the natural, physical and mathematical sciences, 1633-1876. By Samuel H. Scudder. 1879. 8°. pp. xii. 358.

** The annual reports of Mr. Sibley as Librarian are preserved in manuscript, but his twenty-second and final Annual Report (July 6, 1877) was printed. The present Librarian has made three annual reports, which have been appended to the Reports of the President, and have also been issued separately.

MUSEUM OF COMPARATIVE ZOÖLOGY.

Memoirs of the Museum of Comparative Zoölogy at Harvard College. Vols. 1-7. 4°. Cambridge. 1865-80.

First published under the title of "Illustrated Catalogue," each paper separately paged. Nos. 1, 2 of the Catalogue form vol. 1 of Memoirs; Nos. 3, 4, 5, 6 of Catalogue and No. 9 of Memoirs form vol. 2; No. 7 of Catalogue forms vol. 3; and No. 8 of Catalogue and No. 10 of Memoirs form vol. 4. After this, the continuous numbering of separate papers is discontinued.

Contents.—i. 1865. pp. 460, pl. 2, cuts in text.—1. Ophiuridæ and astrophytidæ. By T. Lyman. pp. 8, 200, pl. 2, cuts.—2. North American aclephæ. By A. Agassiz. pp. 14, 234, cuts.

ii. 1870-76. pp. 280, pl. 26. 1. 1870. Monograph of the North American Astaciidæ. By H. A. Hagen. pp. 8, 111, pl. 11.—2. 1871. Deep-sea corals. By L. F. de Pourtalès. pp. (4), 93, map, pl. 8.—3. 1872. The immature state of the odonata; part 1, subfamily gomphina. By L. Cabot. pp. (4), 19, pl. 3.—4. 1871. Supplement to the Ophiuridæ and astrophytidæ. By T. Lyman. pp. 18, pl. 2.—5. 1876. On some insect deformities. By H. A. Hagen. pp. 23, pl. 1.

iii. 1872-74. pp. 796, pl. 94. Revision of the echini. By A. Agassiz.—1. 1872. Introduction, bibliography, nomenclature, chronological list, synonymy, geographical distribution. pp. 12, 244, pl. 7.—2. 1872. Echini of the eastern coast of the United States, together with a report on the deep-sea echini collected in the straits of Florida, by L. F. de Pourtalès, in the years 1867-69. pp. 245-378, pl. 42.—3. 1873. Description of the species of recent echini. pp. (2), 379-628, (2), pl. 28.—4. 1874. Structure and embryology of the echini. pp. (2), 629-762, pl. 17, cuts.

*** The text and plates were issued separately; the latter with title-pages and index making pp. (6), 4, and one or more pages of text corresponding to each plate.

iv. 1874-76. pp. 348, pl. 28.—1. 1874. Zoölogical results of the Hassler expedition. I. Echini, crinoids, and corals. By A. Agassiz and L. F. de Pourtalès. pp. 4, 54, pl. 10.—2. 1875. *The same*. II. Ophiuridæ and astrophytidæ, including those dredged by the late Dr. W. Stimpson. By T. Lyman. pp. 34, pl. 5, cuts.—3. 1876. The American bison, living and extinct. By J. A. Allen. T. p., pp. 10, 246, map, pl. 12.

v. 1877. pp. 215, pl. 54.—1. North American starfishes. By A. Agassiz. pp. 6, 137, pl. 20.—2. Report on the hydroids collected during the exploration of the Gulf Stream by L. F. de Pourtalès. By G. J. Allman. pp. 2, 66, pl. 34.

vi. 1878-80. pp. 637, pl. 33, maps 4.—1. 1879-80. The auriferous gravels of the Sierra Nevada of California. By J. D. Whitney. pp. 5-569, pl. 23, maps 4.—2. 1878. Report on the fossil plants of the auriferous gravel deposits of the Sierra Nevada. By L. Lesquereux. pp. 6, 62, pl. 10.

vii. 1880. pp. 4, 61, pl. 23 (incomplete).—1. Report on the Florida reefs. By L. Agassiz, accompanied by illustrations of Florida corals, from drawings by Sonrel, Burkhardt, Agassiz, and Roetter, with an explanation of the plates by L. F. de Pourtalès.

*** Two other parts, one already published, complete the volume.

Illustrated Catalogue. See Memoirs.

Bulletin of the Museum of Comparative Zoölogy at Harvard College, in Cambridge. Vols. 1-7. 8°. Cambridge. 1863-80.

Contents.—i. 1863-1869. pp. 4, 386. 1. List of the fishes sent by the Museum to different institutions, in exchange for other specimens, with annotations. By F. W. Putnam. pp. 1-16.—2. List of the echinoderms sent by the Museum to different institutions, in exchange for other specimens, with annotations. By A. Agassiz. pp. 17-28.—3. List of the polyps and corals sent by the Museum to different institutions, in exchange for other specimens, with annotations. By A. E. Verrill. pp. 29-60.—4. List of the brachiopods from the island of Anticosti, sent by the Museum to different institutions, in exchange for other specimens, with annotations. By N. S. Shaler. pp. 61-70.—5. The fossil cephalopods of the Museum of Comparative Zoölogy. By A. Hyatt. pp. 71-102.—6. Contributions to the fauna of the Gulf Stream at great depths. By L. F. de Pourtalès. pp. 103-120.—7. Contributions to the fauna of the Gulf Stream at great depths; second series. By L. F. de Pourtalès. pp. 121-142.—8. Catalogue of the mammals of Massachusetts, with a critical revision of the species. By J. A. Allen. pp. 143-252.—9. Preliminary report on the echini and starfishes, dredged in deep water between Cuba and the Florida reef, by L. F. de Pourtalès. Prepared by A. Agassiz. pp. 253-308.—10. Preliminary report on the ophiuridæ and astrophytidæ dredged in deep water between Cuba and the Florida reef, by L. F. de Pourtalès. Prepared by T. Lyman. pp. 309-354.—11. List of the crinoids, obtained on the coasts of Florida and Cuba by the U. S. coast-survey Gulf-stream expeditions in 1867, 1868, 1869. By L. F. de Pourtalès. pp. 355-358.—12. List of holothuridæ from the deep-sea dredgings of the U. S. coast survey. By L. F. de Pourtalès. pp. 359-361.—13. Report upon the deep-sea dredgings in the Gulf Stream during the third cruise of the U. S. steamer "Bibb," addressed to Professor Benjamin Peirce, superintendent U. S. coast survey. By L. Agassiz. pp. 363-386.

ii. 1870-71. pp. 4, 457; pl. 8.—1. On the eared seals (otariidæ), with detailed descriptions of the North Pacific species. By J. A. Allen. Together with an account of the habits of the northern fur seal (*Callorhinus ursinus*). By C. Bryant. pp. 1-108; pl. 1-3.—2. Preliminary report on the crustacea, dredged in the Gulf Stream in the Straits of Florida, by L. F. de Pourtalès; part I. Brachyura. Prepared by W. Stimpson. pp. 109-160.—3. On the mammals and winter birds of East Florida, with an examination of certain assumed specific characters in birds, and a sketch of the bird fauna of eastern North America. By J. A. Allen. pp. 161-450; pl. 4-8.—4. Directions for dredging. Drawn up by L. F. de Pourtalès. pp. 451-454.—5. Appendix to the Preliminary report (Bulletin, no. 9, vol. 1) on the echini collected by L. F. de Pourtalès. By A. Agassiz. pp. 455-457.

iii. 1871-76. pp. 4, 375; pl. 18.—1. Report on the brachiopoda, obtained by the U. S. coast-survey expedition in charge of L. F. de Pourtalès, with a revision of the craniidæ and discinidæ. By W. H. Dall. pp. 1-45; pl. 1-2.—2. Application of photography to illustrations of natural history, with two figures printed by the Albert and Woodbury process. By A. Agassiz. pp. 47-48; pl. (2).—3. A letter concerning deep-sea dredging, addressed to Professor Benjamin Peirce, superintendent U. S. coast survey. By L. Agassiz. pp. 49-53.—4. Preliminary notice of a few species of echini. By A. Agassiz. pp. 55-58.—5. Fossil cephalopods of the Museum of Comparative Zoölogy; embryology. By A. Hyatt. pp. 59-111; pl. 1-4, cuts in text.—6. Notes of an ornithological reconnaissance of portions of Kansas, Col-

orado, Wyoming, and Utah. By J. A. Allen. pp. 113-183. — 7. Interim report on the hydroids collected by L. F. de Pourtalès, during the Gulf Stream exploration of the U. S. coast survey. By G. J. Allman. pp. 185-186. — 8. The echini collected on the Hassler expedition. By A. Agassiz. pp. 187-190. — 9. Catalogue of the terrestrial air-breathing mollusks of North America, with notes on their geographical range. By W. G. Binney. pp. 191-220, map. — 10. Ophiuridæ and astrophytidæ, old and new. By T. Lyman. pp. 221-272, pl. 1-7, cuts in text. — 11. Exploration of Lake Titicaca, by A. Agassiz and S. W. Garman. I. Fishes and reptiles. By S. W. Garman. pp. 273-278, 1 pl. — 12. Exploration of Lake Titicaca, by A. Agassiz and S. W. Garman. II. Notice of the palæozoic fossils. By O. A. Derby, with notes by A. Agassiz. pp. 279-286. — 13. Recent corals from Tilibiche, Peru. By A. Agassiz and L. F. de Pourtalès. pp. 287-290, pl. 1. — 14. The development of salpa. By W. K. Brooks. pp. 291-348, cuts in text. 15. Exploration of Lake Titicaca, by A. Agassiz and S. W. Garman. III. List of mammals and birds. By J. A. Allen, with field notes by S. W. Garman. pp. 349-359. — 16. Exploration of Lake Titicaca, by A. Agassiz and S. W. Garman. IV. Crustacea. By W. Faxon. pp. 361-375, cuts in text.

iv. 1878. pp. 6, 449, pl. 104, cuts in text. The terrestrial air-breathing mollusks of the United States and the adjacent territories of North America. Described and illustrated by W. G. Binney.

v. 1878-79. pp. 4, 368, pl. 50. — 1. (Letter No. 1) to C. P. Patterson, superintendent coast survey, Washington, D. C., on the dredging operations of the U. S. coast-survey steamer "Blake," during parts of January and February, 1878. By A. Agassiz. pp. 1-9. — 2. On the presence of demodex folliculorum in the skin of the ox. By W. Faxon. pp. 11-16. pl. 1. — 3. The Richmond boulder trains. By E. R. Benton. pp. 17-42, maps 2. — 4. Description of a new species of corbicula, with notes on other species of the corbiculadæ family. By T. Prime. pp. 43-46, pl. 2, cuts in text. — 5. Notes on the anatomy of corbiculadæ (mollusca) and a translation from the Danish of an article on the anatomy of cyclas (sphærium), by Jacobsen. By T. Prime. pp. 47-54, pl. 3. — 6. (Letter No. 2) to C. P. Patterson, superintendent coast survey, Washington, D. C., on the dredging operations of the U. S. coast-survey steamer "Blake," during parts of March and April, 1878, with the preliminary report on the mollusca of the expedition, by W. H. Dall. pp. 55-64, pl. 2. — 7. Ophiuridæ and astrophytidæ of the exploring voyage of H. M. S. "Challenger," under Professor Sir W. Thomson. By T. Lyman. Part I. pp. 65-168, pl. 10. — 8. Reports on the results of dredging, under the supervision of A. Agassiz, in the Gulf of Mexico, by the U. S. coast-survey steamer "Blake," Lt. Com. C. D. Sigsbee commanding. I. Description of the sounding-machine, water-bottle, and detacher used on board the "Blake" by C. D. Sigsbee. pp. 169-179, pl. 5. — 9. *The same*. II. Report on the echini, by A. Agassiz; crinoids and corals, by L. F. de Pourtalès; and ophiurans by T. Lyman: preceded by a bibliographical notice of the publications relating to the deep-sea investigations carried on by the U. S. coast survey. pp. 181-238, pl. 10, cuts in text. — 10. Report on the hydroidea collected during the exploration of the Gulf Stream and Gulf of Mexico by A. Agassiz. By S. F. Clarke. pp. 239-252, pl. 1-5. — 11. On some young stages in the development of hippa, porcellana, and pinnixa. By W. Faxon. pp. 253-268, pl. 1-5. — 12. Reports on the results of dredging, under the supervision of A. Agassiz, in the Gulf of Mexico, by the U. S. coast-survey steamer "Blake," Lt. Com. C. D. Sigsbee commanding. IV. Preliminary report on the worms. By E. Ehlers. pp. 269-274. — 13. On the classification of rocks. By M. E. Wadsworth. pp. 275-287. — 14. (Letter No. 3) to C. P. Patterson, superintendent U. S. coast survey, Washington, D. C., on the dredging operations carried on from December, 1878, to March 10, 1879, by the U. S. coast-survey steamer "Blake," Com. J. R. Bartlett. By A. Agassiz. pp. 289-302, maps 2. — 15. On the development of palæmonetes vulgaris. By W. Faxon. pp. 303-330, pl. 1-4. — 16. On the jaw and lingual dentition of certain terrestrial mollusks. By W. G. Binney, pp. 331-368, pl. 2.

vi. 1879-1880. pp. 158, pl. 16 (incomplete). — 1. List of dredging stations occupied by the U. S. coast-survey steamers "Corwin," "Bibb," "Hassler," and "Blake," from 1867-1879, Benjamin Peirce and Carlile P. Patterson, superintendents of the coast survey. pp. 1-15. — 2. Ophiuridæ and astrophytidæ of the exploring voyage of H. M. S. "Challenger," under Professor Sir W. Thomson. Part II. By T. Lyman. pp. 17-83, pl. 9. — 3. Reports on the results of dredging under the supervision of A. Agassiz, in the gulf of Mexico, 1877-78, by the U. S. coast-survey steamer "Blake," Lt. Com. C. D. Sigsbee commanding. V. General conclusions from a preliminary examination of the mollusca. By W. H. Dall. pp. 85-93. — 4. Reports on the results of dredging under the supervision of A. Agassiz, in the Caribbean Sea, 1878-79, by the U. S. coast-survey steamer "Blake," Com. J. R. Bartlett commanding. VI. Report on the corals and antipatharia. By L. F. de Pourtalès. pp. 95-120, pl. 1-3. — 5. The ethmoid bone in the bats. By H. Allen. pp. 121-122. — 6. On certain species of chelonioidæ. By S. W. Garman. pp. 123-126. — 7. Contribution to a knowledge of the tubular jelly fishes. By J. W. Fewkes. pp. 127-146, pl. 1-3. — 8. (Letter No. 4) to C. P. Patterson, superintendent U. S. coast and geodetic survey, Washington, D. C., on the dredging operations carried on during part of June and July, 1880, by the U. S. coast-survey steamer "Blake;" Com. J. R. Bartlett. By A. Agassiz. pp. 147-154. — 9. Reports of the results of dredging, under the supervision of A. Agassiz, on the east coast of the United States, by the U. S. coast-survey steamer "Blake;" Com. J. R. Bartlett. VII. Description of a gravitating trap for obtaining specimens of animal life from intermedial ocean depths. By C. D. Sigsbee. pp. 155-158, pl. 1.

The volume, when completed, will contain three more numbers, two of which have already been published.

vii. 1880. pp. 4, 157; pl. 6 (incomplete). 1. Notes on the geology of the iron and copper districts of Lake Superior. By M. E. Wadsworth.

The volume will contain only geological papers, and bears also the title "Geological Series, 1."

Report of the Committee of the Overseers of Harvard College, appointed to visit the Lawrence scientific school during the year 1860; together with the reports submitted by the professors. Submitted Feb. 21, 1861. 8°. Cambridge. 1873. pp. 86.

Contents.—(i.) Report of the Board of Overseers of Harvard College. pp. 3-11.—(ii.) Report of the Trustees of the Museum of Comparative Zoölogy. 1861. Sep. t.p., pp. 16-67. [App. C. Report of the Director of the Museum for the year 1859, presented January, 1860. By L. Agassiz. pp. 48-53. App. D. Report of the Committee on the Museum, presented October, 1860. pp. 54-58. App. E. Report of the Director of the Museum for the year 1860, submitted January, 1861. By L. Agassiz. pp. 59-66.]—(iii.) Annual report of the Trustees of the Museum, together with the report of the Director. 1862. Sep. t. p., pp. 71-86. [App. A. Third Annual Report of the Museum, presented October, 1861. By L. Agassiz. pp. 73-85.]

This reprints as part of its contents the two following :—

Report of the Trustees of the Museum of Comparative Zoölogy. 1861. 8°. Boston. 1861. pp. 50.

Contents.—(i.) App. C. Report of the Director of the Museum for the year 1859, presented January, 1860. By L. Agassiz. pp. 33-37 (same as the preceding (ii.) App. C.)—(ii.) App. D. Report of the Committee on the Museum, presented October, 1860. pp. 38-42 (same as the preceding (ii.), App. D.)—(iii.) App. E. Report of the Director of the Museum for the year 1860, submitted January, 1861. By L. Agassiz. pp. 43-49 (same as the preceding (ii.) App. E.).

This and the following reports up to 1876 were issued by the Commonwealth, as Senate documents. This is Senate, No. 37.

Annual Report of the Trustees of the Museum of Comparative Zoölogy, together with the Report of the Director. 1862. By L. Agassiz. 8°. Boston. 1862. pp. 18. Senate, No. 53.

Same as report of the committee of the overseers above, (iii.).

Annual report of the Trustees of the Museum of Comparative Zoölogy, together with the Report of the Director. 1862. By L. Agassiz. 8°. Boston. 1863. pp. 41. Senate No. 32.

Contents.—App. A. Fourth Annual Report of the Museum, by L. Agassiz, presented October, 1862. pp. 5-40. Distinct from the preceding.

Annual Report of the Trustees of the Museum of Comparative Zoölogy (at Harvard College, in Cambridge), together with the Report of the Director. 1863-72. By L. Agassiz. 10 nos, 8°. Boston. 1864-73.

The seventh report, 1865, and in part the eighth, 1866, were prepared by A. Agassiz, assistant in charge. 1863. pp. 56. Senate, no. 22.—1864, pp. 51, Senate, no. 96.—1865, pp. 32, Senate, no. 67.—1866, pp. 37, Senate, no. 52.—1867, pp. 32, Senate, no. 218.—1868, pp. 46, Senate, no. 60.—1869, pp. 41, Senate, no. 170.—1870, pp. 35, Senate, no. 327.—1871, pp. 35, Senate, no. 249.—1872, pp. 36, Senate, no. 252.

Annual Report of the Trustees of the Museum of Comparative Zoölogy at Harvard College, in Cambridge, together with the Report of the Committee on the Museum. 1873-74. 2 nos. 8°. Boston. 1874-75.

The report for 1873 is by A. Agassiz; that for 1874 by A. Agassiz and T. Lyman. 1873, pp. 30, Senate, no. 200.—1874, pp. 26, Senate, no. 75.

Annual Report of the Trustees of the Museum of Comparative Zoölogy, at Harvard College, in Cambridge, together with the Report of the Curator to the Committee on the Museum, for 1875-76. By A. Agassiz. 2 nos. 8°. Boston. 1876-77.

1875, pp. 58, portr., pl. 3, Senate, no. 10.—1876, pp. 47, Senate, no. 5.

Annual Report of the Curator of the Museum of Comparative Zoölogy, at Harvard College to the President and Fellows of Harvard College for 1877-80. By A. Agassiz. 3 nos. 8°. Cambridge. 1878-80.

1877-78, pp. 40, pl. 2.—1878-79, pp. 28.—1879-80, pp. 29, pl. 5.

. These reports contain special reports on departments of the Museum by Messrs. A. Agassiz, J. A. Allen, J. G. Anthony, A. S. Bickmore, J. H. Blake, R. Bliss, Jr., W. Faxon, S. W. Gamao, H. A. Hagen, C. E. Hamlin, A. Hyatt, L. Lesquereux, G. A. Maack, J. McCrady, C. R. Osten Sacken, A. S. Packard, Jr., J. B. Perry, L. F. de Pourtales, F. W. Putnam, O. H. St. John, S. H. Scudder, N. S. Shaler, F. R. Staehli, F. Steindachner, P. R. Uhler, A. E. Verrill, J. D. Whitney.

MISCELLANEOUS.—List of American fossils which can be furnished in exchange by the Museum. 16°. N. P., N. D., pp. 8.

List of European fossils which can be furnished in exchange by the Museum. 16° N. P., N. D., pp. 12.

Directions for collecting objects of natural history. 8°. Cambridge. N. D. pp. 8.

Articles of agreement between the Trustees of the Museum of Comparative Zoölogy and the President and Fellows of Harvard College. 8°. Boston. 1859. pp. 8.

Charter of the Museum of Comparative Zoölogy, with a list of the Trustees, the by-laws, and other papers. 1859. 8°. Boston. 1859. pp. 32.

An account of the organization and progress of the Museum of Comparative Zoölogy at Harvard College, in Cambridge, Mass. 8°. Cambridge. 1871. pp. 32, pl. 5.

The Organization and Progress of the Anderson School of Natural History at Penikese Island. Report of the Trustees for 1873. By A. Agassiz. 8°. Cambridge. 1874. pp. 30, pl. 5.

PEABODY MUSEUM OF AMERICAN ARCHÆOLOGY AND ETHNOLOGY.

First-(Seventh) Annual Report of the Trustees of the Peabody Museum of American Archæology and Ethnology, presented to the President and Fellows of Harvard College (by Jeffries Wyman), 1868-74. 7 nos. 8°. Cambridge. 1868-74.

1. pp. 28. — 2. pp. 23. — 3. pp. 15. — 4. pp. 27. — 5. pp. 35. — 6. pp. 27. — 7. pp. 43. These Reports contain notices of explorations and collections by the Curator, among which may be specified: On the Shell Heaps of the St. John's River, Fla. (i. 11-18). — The Mortillet Collection (ii. 6-7). — The Rose Collection (ii. 8-11). — Observations on Crania and other Parts of the Skeleton (iv. 10-24). — The Clement Collection (v. 6-11). — Explorations in Tennessee (v. 11-22). — Explorations in Florida (v. 22-25). — The Nicolucci Collection (vi. 7-12). — Explorations on the St. Clair River, Michigan, by H. Gillman (vi. 13-19). — The Agassiz Collection (vii. 7-24). — Human Remains in the Shell Heaps of the St. John's River, East Florida; Cannibalism (vii. 26-37).

Eighth Annual Report of the Trustees of the Peabody Museum of American Archæology and Ethnology, presented to the President and Fellows of Harvard College (by Asa Gray), 1875. 8°. Cambridge. 1875. pp. 61.

The Report on the Additions to the Museum (pp. 12-52) is by F. W. Putnam, and is mostly occupied with an account of the Swallow Collection of Missouri Pottery (pp. 16-46), and of explorations in Kentucky (pp. 47-52).

Ninth Annual Report of the Trustees of the Peabody Museum of American Archæology and Ethnology, presented to the President and Fellows of Harvard College (by F. W. Putnam), 1876. 8°. Cambridge. 1876. pp. 56.

Contains (pp. 31-56) a General Index to Reports 1-9, which are thus made to form Vol. I, which also contains title-page (like the next) and preface (1 p.) and portraits of Peabody and Wyman.

Reports of the Peabody Museum of American Archæology and Ethnology, in connection with Harvard University (by F. W. Putnam). Vol. II. 1876-79. 8°. Cambridge. 1880. pp. 7, 775, map, pl. and illustr.

Contents. — 10. 1877, pp. 1-167. *Appendices.* — (i.) Report on the Discovery of supposed Paleolithic Implements from the Glacial Drift, in the Valley of the Delaware River, near Trenton, New Jersey, by C. C. Abbott. pp. 30-43. — (ii.) Report on the age of the Delaware Gravel Beds containing Chipped Pebbles, by N. S. Shaler. pp. 44-47. — (iii.) Report on Exploration of Ash Cave in Benton Township, Hocking Co., Ohio, by E. B. Andrews. pp. 48-50. — (iv.) Report of Explorations of Mounds in Southeastern Ohio, by E. B. Andrews. pp. 51-74. — (v.) Report on the Exploration of a Mound in Lee Co., Virginia, by L. Carr. pp. 75-94. — (vi.) On the Art of War and Mode of Warfare of the Ancient Mexicans, by A. F. Bandelier. pp. 95-161.

11. 1878, pp. 169-457. *Appendices.* — (i.) Second Report on the Paleolithic Implements from the Glacial Drift, in the Valley of the Delaware River, near Trenton, New Jersey, by C. C. Abbott. pp. 225-257. — (ii.) The Method of Manufacture of several Articles by the former Indians of Southern California, by P. Schumacher. pp. 258-268. — (iii.) Cave Dwellings in Utah, by E. Palmer. pp. 269-272. — (iv.) The Manufacture of Soapstone Pots by the Indians of New England, by F. W. Putnam. pp. 273-276. — (v.) Notes on a Collection from the Ancient Cemetery at the Bay of Chacota, Peru, by J. H. Blake. pp. 277-304. — (vi.) Archæological Explorations in Tennessee, by F. W. Putnam. pp. 305-360, map. — (vii.) Observations on the Crania from the Stone Graves in Tennessee, by L. Carr. pp. 361-384. — (viii.) On the Distribution and Tenure of Lands, and the Customs with respect to Inheritance, among the Ancient Mexicans, by A. F. Bandelier. pp. 385-448.

12-13. 1880, pp. 458-775. *Appendices.* — (i.) Measurements of Crania from California by L. Carr. pp. 497-505. — (ii.) Flint Chips, by C. C. Abbott. pp. 506-520. — (iii.) The Method of manufacturing Pottery and Baskets among the Indians of Southern California, by P. Schumacher. pp. 521-525. — (iv.) Aboriginal Soapstone Quarries in the District of Columbia, by E. R. Reynolds. pp. 526-535. — (v.) On the Ruins of a Stone Pueblo on the Animas River in New Mexico; with a Ground Plan, by L. H. Morgan. pp. 536-556. — (vi.) On the Social Organization and Mode of Government of the Ancient Mexicans, by A. F. Bandelier. pp. 557-699.

UNIVERSITY PUBLICATIONS.

Annual Reports of the President and Treasurer of Harvard College. 1869-70 to 1879-80. 10 vols. 8°.

These reports contain also the departmental reports submitted to the Corporation.

Catalogus Senatus Academici Collegii Harvardiani, et eorum qui muneribus et officiis

præferunt quique honoribus academicis donati sunt, in Universitate quæ est Cantabrigiæ in Civitate Massachusettensium. MDCCCLXXII., MDCCCLXXV., et MDCCCLXXX.

These three volumes, the first two triennial, and the last quinquennial (as the issues will hereafter be), were edited by John Langdon Sibley, Librarian and Librarian Emeritus. The last was accompanied by a circular, "Harvard Quinquennial Catalogue, 1880," drawing attention to graduates from 1642 to 1820, about whom information is wanted.

The Harvard University Catalogue, 1869-70 to 1879-80. 10 volumes. 16°.

The first volume had the imprint "Cambridge: Sever, Francis, & Co.;" the second and third volumes, "Cambridge: Riverside Press"; and later volumes, "Cambridge: published for the University, by Charles W. Sever." The first two years were edited by John Langdon Sibley, Librarian, and succeeding volumes by G. A. Hill (1872-74); W. H. Pettee (1874-76); C. L. Smith (1876-77); G. R. Briggs (1877-79); and H. R. Wheeler (1879-80).

The following publication is not official, but is a convenient companion to the Catalogue as placing the names in one alphabetical list, and as presenting the Officers and Members of all the College Societies:

The Harvard Index, 1873-74 to 1879-80. 7 Vols. 16°.

PUBLICATIONS OF THE OFFICERS.

Ezra Abbot.

Assistant Librarian, 1856-1872. Bussey Professor of New Testament Criticism and Interpretation, 1872-

1. A Critical Greek and English Concordance of the New Testament. Prepared by Charles F. Hudson . . . revised and completed by Ezra Abbot. . . Boston, 1870, 160; 3d edition with Supplement complete. 1875. 160. xxii, 508.
2. Review of Trench's Synonyms of the New Testament. [With a special discussion of the distinction between *αἰρέω* and *ἐπωρῶ*.] (*North American Review*, Jan. 1872; CXIV. 171-189.)
3. On the Comparative Antiquity of the Sinaitic and Vatican Manuscripts of the Greek Bible. (*Journal of the American Oriental Society*, X. part 1 (1872), 189-200, also 602.)
4. Reports on the Bucknell Library of Crozer Theological Seminary, by Rev. Prof. C. P. Krauth, D.D., and Prof. Ezra Abbot. Philadelphia, 1874, 80, pp. 15.
5. The late Prof. Tischendorf. (*Unitarian Review*, March, 1875; III. 217-236; and reprinted in Dickinson's *Theological Quarterly*, London.)
6. On the Reading "An only-begotten God" or "God only-begotten," John i. 18. (*Unitarian Review*, June, 1875; III. 560-571.)
7. The late Dr. Tregelles. (*Independent* (N. Y.), July 1, 1875, pp. 3, 4; and reprinted, Plymouth [Eng.], 1875, 249, pp. 20.)
8. On the Reading "Church of God," Acts xx. 28. (*Bibliotheca Sacra*, April, 1876; XXXIII. 313-352.) First privately printed for the American Bible Revision Committee.
9. American Oriental Society. [With some notice of Max Müller's attack on Prof. W. D. Whitney.] (*Bibliotheca Sacra*, July, 1877; XXXIV. 557-562.)
10. Article "Septuagint" in Johnson's *New Universal Cyclopaedia*, IV. New York, 1878.
11. On the Reading *ἕστηκεν* (supposed imperfect of *σῴζω*), John viii. 44. pp. 6. (Privately printed for the American Bible Revision Committee. 1878.)
12. The New Testament Text. — The Imperfection of the Greek Text from which our Common English Version was made, and our Present Resources for its Correction. (*Sunday-School World* (Phila.), Oct. 1878; reprinted, with some changes, in *Anglo-American Bible Revision* by members of the American Revision Committee. New York, 1879, 129, pp. 86-98.)
13. Ancient Papyrus, and the Mode of making Paper from it. (*Library Journal*, Nov. 1878; III. 323, 324.)
14. Dr. Todd on Bible Revision. (*Christian Intelligencer* (N. Y.), Nov. 21, 1878.)

15. Reply of Prof. Abbot to the Letter of Dr. Todd. (*Christian Intelligencer*, April 17 and 24, 1879.)
16. I. John v. 7 and Luther's German Bible. (*Christian Intelligencer*, May 15, 1879.)
17. The Authorship of the Fourth Gospel: External Evidences. Boston, 1880, 80, pp. 104. (First printed in the *Unitarian Review*, Feb., March, and June, 1880; also included in the volume of *Institute Essays*, Boston, 1880.)

** Professor Abbot also served from 1872 to 1880 as a member of the New Testament Company of the American Bible Revision Committee. See also the Bulletin of the Library.

Henry Adams.

Assistant Professor of History, 1870-1877.

1. New York Gold Conspiracy. (*Westminster Review*, Oct. 1870, XCIV. 411; reprinted in No. 2.
2. Chapters of Erie and other Essays, by C. F. Adams, Jr., and Henry Adams. Boston, 1871.
3. Essays in Anglo-Saxon Law. Boston, 1876.
4. Documents relating to New England Federalism, 1800-1815, edited by Henry Adams. Boston, 1877.
5. The Life of Albert Gallatin. Philadelphia, 1879.
6. The Writings of Albert Gallatin, edited by Henry Adams. 3 vols. Philadelphia, 1879.

** Professor Adams was Editor of the *North American Review*, Jan. 1871-July 1872; April 1874-Oct. 1876. The following are some of his articles and notices: The Session, CXI. 29; Harvard College, 1786-87, CXIV. 110; Freeman's Historical Essays, CXIV. 193; Maine's Village Communities, CXIV. 196; Freeman's History of the Norman Conquest, CXVIII. 176; Coulanger's Ancient City, CXVIII. 390; Sohm's Procédure de la Lex Salica, CXVIII. 416; Stubbs's Constitutional History of England, CXIX. 233, and CXXIII. 161; Kitclinn's History of France, CXIX. 442; Parkman's Old Régime in Canada, CXX. 175; Von Hols's Administration of Andrew Jackson, CXX. 179; The Quincy Memoirs and Speeches, CXX. 235; Bancroft's History of the United States, CXX. 424; Maine's Early History of Institutions, CXX. 432; Palgrave's Poems, CXX. 438; Green's Short History of the English People, CXXI. 216; Tennyson's Queen Mary, CXXI. 422; Palfrey's History of New England, CXXI. 473; Von Hols's History of the United States, CXXIII. 328 (with H. C. Lodge); The "Independents" in the Canvass, CXXIII. 426 (with C. F. Adams, Jr.).

Alexander Agassiz.

Assistant in the Museum of Comparative Zoölogy, 1860-1874; Curator of the Museum of Comparative Zoölogy, 1875-

1. Note on Lovén's Article on *Leskia mirabilis* Gray. (*Ann. N. Y. Lyceum Nat. Hist.*, 1870; IX. 242-245.)
2. The development of *Echini*. (*Monthl. Micr. Journ.*, 1870; III. 251-252.)

3. Sur le Commensalisme dans le Règne Animal. (*Bull. Acad. Sc. Belg.*, 1870; XXIX. 179-180.)
 4. Marine Animals of Massachusetts Bay, by Alexander and Elizabeth C. Agassiz, 2d ed. 80. Boston, 1871.
 5. Notes on Beaver Dams. (*Proc. Bost. Soc. Nat. Hist.*, 1871; XIII. 101-104.)
 6. On the habits of a few Echinoderms. (*Proc. Bost. Soc. Nat. Hist.*, 1871; XIII. 104-107.)
 7. The history of Balanoglossus and Tornaria. (*Mem. Amer. Acad.*, 1872; N.S., IX. 421-436. 3 pl.)
 8. Notice of Dr. J. E. Holbrook. (*Proc. Amer. Acad.*, 1872; VIII. 473-474.)
 9. Sur le Développement des Tentacules des Arachnactis et des Edwardsies. (*Archiv. Zool. Expér.*, 1873; II. 38-39.)
 10. The Homologies of Pedicellariæ. (*Amer. Nat.*, 1873; VII. 398-406.)
 11. Embryology of Ctenophoræ. (*Mem. Amer. Acad.*, 1874; N. S. X. 357-398, 5 pl., cuts.)
 12. Note sur la Fertilisation Artificielle de deux Espèces d'Étoiles de Mer. (*Arch. Zool. Expér.*, 1874; III. 46.)
 13. Critique de la Gastræa Théorie; traduction par M. A. Schneider. (*Arch. Zool. Expér.*, 1875; IV. 9-13.)
 14. On Viviparous Echini from Kerguelen Island. (*Proc. Amer. Acad.*, 1876; XI. 231-236, cuts.)
 15. Hydrographic Sketch of Lake Titicaca. (*Proc. Amer. Acad.*, 1876; XI. 283-295, map.)
 16. Sur le Développement des Pleuronectes. (*Journ. Zool.*, 1877; VI. 194-197.)
 17. Notice of Karl Ernst von Baer. (*Proc. Amer. Acad.*, 1877; XII. 331-335.)
 18. On the Young Stages of some Osseous Fishes. I. Development of the Tail. (*Proc. Amer. Acad.*, 1877; XIII. 117-126, 2 pl.) — The same. II. Development of the Flounders. (*Proc. Amer. Acad.*, 1878; XIV. 1-25, 8 pl.)
 19. The Development of Lepidostens, Part I. (*Proc. Amer. Acad.*, 1878; XIV. 65-76, 5 pl.)
 20. Preliminary Report on the Echini of the Exploring Expedition of H. M. S. Challenger, Sir C. Wyville Thomson Chief of Civilian Staff. (*Proc. Amer. Acad.*, 1879; XIV. 190-212.)
 21. Paleontological and Embryological Development. Address before the American Association for the Advancement of the Science in August, 1880. 80. Salem, 1880, pp. 26.
 22. Notes on some Points in the History of the Nomenclature of Echini. (*Proc. Zool. Soc. Lond.*, 1880, 33-38.)
- The following reviews and minor papers:
23. In the *American Journal of Science*, 3d series: Claparède on Marine Bryozoa, 1871, I. 387. Claparède's Annélides du Golfe de Naples, 1871, II. 61-62. Metschnikoff on the Affinities of Corals, 1871, II. 220-221. Obituary of Claparède, 1871, II. 229-230. Allman's Monograph of the Gymnoblasic or Tubularian Hydroids, 1873, V. 145-148. Kowalewsky's Embryological Papers, 1874, VII. 470-471. Embryology of the Ctenophoræ [criticising Hæckel's Gastræa Theory], 1874, VIII. 471-476. Instinct in Hermit Crabs, 1875, X. 290-291. Hæckel's Ziele und Wege der heutigen Entwicklungsgeschichte, 1876, XI. 74. Hæckel's Allacogenesis, 1876, XI. 420, 421. Thomson's Echini of the "Porcupine" and "Challenger," 1877, XIII. 164. Leuckart and Nitzsch's Zoological Diagrams, 1877, XIV. 500-501. Habits of Young Limulus, 1878, XV. 75-76. The Zoologischer Anzeiger, 1878, XVI. 405. Former Extension northward of the South American Continent, 1879, XVIII. 230-232. Hæckel's System der Medusen, 1880, XIX. 245-248. Obituary of L. F. de Pourtalès, 1880, XX. 253-255.
 24. In the *American Naturalist*: Lankester on Limulus, 1871, V. 555-561. Systematic Zoology and Nomenclature, 1871, V. 353-356. The Zoological Station of Naples, 1872, VI. 686-687. Arachnactis the Young of Edwardsia, 1872, VI. 770-771. Delesse's Geology of the Sea Bottom, 1873, VII. 160-163. On Tornaria, 1874, VIII. 429. Hæckel's Gastræa Theory, 1876, X. 73-75. Huxley and Martin's Biology, 1876, X. 228-229. The Development of Flounders, 1876, X. 705-708.
 25. In *Nature*: Cotteau's Echinides de la Sarthe, 1871, IV. 220-221. Originators of Glacial Theory, 1873, VIII. 25. Agassiz and Forbes, 1873, VIII. 222-223. Misti and its Cloud, 1875, XIII. 107-108. The Challenger Collections, 1877, XV. 256. Some Results of Deep-sea Dredging, 1877, XVI. 149. Antiquity of Ocean Basins, 1880, XXI. 587-588. Obituary of L. F. de Pourtalès, 1880, XXII. 371-372.
 26. In *The Nation*: Thomson's The Depths of the Sea, 1873, XVI. 336-337. Life and Letters of Principal Forbes, 1873, XVI. 369-371. Hæckel on the Evolution of Man, 1879, XXIX. 429-430.
- ** See also the Reports, Bulletin, and Memoirs of the Museum of Comparative Zoology.

Louis Agassiz.

Director of the Museum of Comparative Zoology, 1859-1873.

1. Geological Sketches, First Series. 160. Boston, 1870 (cop. 1866). pp. v, 311, *portr.* and *illustr.*
2. Geological Sketches, Second Series. 160. Boston, 1876, pp. 229.
3. Methods of Study in Natural History. 160. Boston, 1870, etc. (cop. 1863). pp. viii, 319, *illustr.*
4. A Journey in Brazil, by Professor and Mrs. Louis Agassiz. 80. Boston, 1871 (cop. 1867). pp. xix, 540, *illustr.*
5. On the Former Existence of Local Glaciers in the White Mountains. (*Proc. Amer. Assoc. Adv. Sc.*, 1870; XIX. 161-167; *Amer. Nat.*, 1871; IV. 550-558.)
6. The Structure and Growth of Domesticated Animals. A Lecture delivered before the State Board of Agriculture at Barre, Dec. 3, 1872. 80. Boston, 1873, pp. 21; reprinted (*Amer. Nat.*, 1873; VII. 641-657).
7. Notice of Dr. J. E. Holbrook. (*Proc. Bost. Soc. Nat. Hist.*, 1871; XIV. 347-351.)
8. Mode of Copulation among the Selachians. (*Proc. Bost. Soc. Nat. Hist.*, 1871; XIV. 339-341.)

9. Fish-nest in the Sea-weed of the Sargasso Sea. (*Amer. Journ. Science*, 1872, 3 ser. III. 154-156; *Ann. Mag. Nat. Hist.*, 1872, 4 ser. IX. 243-245; *Can. Nat.*, 1872, n. s. VI. 354-356; *Monthl. Micros. Journ.*, 1872; VII. 129-130; *Bull. Soc. Sc. Neuchâtel*, 1873; IX. 165-169.)
10. Deep Sea Explorations; more about Trilobites. (*Can. Nat.*, 1872, n. s. VI. 358-361.)
11. Glacial Action in Flegia and Patagonia. (*Amer. Journ. Sc.*, 1872; 3 ser. IV. 135-136.)
12. Sketch of a Voyage from Boston to San Francisco. (*Report Smiths. Inst.*, 1872, 87-92; *Revue Cours Scient.*, 1873; IV. 1077-1093.)
13. Evolution and Permanence of Type. (*Atlantic Monthly*, Jan. 1874; XXXIII. 92-101. Separate, pp. 12.)
14. Three Different Modes of Teething among Selachians. (*Amer. Nat.*, March, 1874; VIII. 129-135.)
- ** See also the Reports, Bulletin, and Memoirs of the Museum of Comparative Zoology.
12. History of North American Pinnipeds, a Monograph of the Walruses, Sea-lions, Sea-bears and Seals of North America. Washington, 1880. (*U. S. Geol. and Geogr. Surv. Territories*, Miscel. Publ. No. XII.) 80. i-xvi, 1-785.
13. Notes on the Mammals of Portions of Kansas, Colorado, Wyoming and Utah. (*Bulletin Essex Institute*, 1874, VI. 43.)
14. List of Birds collected by Mr. Charles Linden, near Santarem, Brazil. (Id. 1876, VIII. 78.)
15. A List of the Birds of Massachusetts, with Annotations. (Id. 1878, X. 3.)
16. In *American Naturalist*: A Spike-horned Moose, 1870, IV. 443. What is the "Washington Eagle?" 1870, IV. 524. The Distribution of the Moose in New England, 1870, IV. 535. Flora of the Prairies, 1870, IV. 577. The Fauna of the Prairies [of the United States], 1871, V. 4. The Classification of the Eared Seals, 1871, V. 37. Ornithological Notes from the West, 1872, VI. 263. "Spike-horned Mule-Deer," 1872, VI. 692. Laws of Geographical Variation in North American Mammals and Birds, 1874, VIII. 227. Influence of Elevation and Latitude upon the Distribution of Species, 1875, IX. 181. The Availability of certain Bartramian Names in Ornithology, 1876, X. 21. The Extinction of the Great Auk [*Alca impennis*] at the Funk Islands, 1876, X. 48. Bartramian Names again: An Explanation, 1876, X. 176. Progress of Ornithology in the United States during the last century, 1876, X. 536. The Former Range of some New England Carnivorous Mammals, 1876, X. 708.

Joel Asaph Allen.

Assistant in Ornithology, 1871-

1. Notes on the Geological Character of the Country between Chique-Chique, on the Rio de São Francisco, and Bahia, Brazil. (In *Geology and Physical Geography of Brazil*. By Ch. Fred. Hartt. Boston, 1870. 309.)
2. Catalogue of the Birds of Iowa. (*White's Geolog. Survey of Iowa*, II. 1870, Appendix B. 419.)
3. Sexual Variation in the Genus *Leucosticte*. (*Field and Forest*, 1876, II. 76.)
4. The Extirpation of the larger Indigenous Mammals of the U. S. (*Penn Monthly*, 1876, VII. 794.)
5. On the Decrease of Birds in the U. S. (Id. 1876, VII. 931.)
6. Description of some Remains of an Extinct Species of Wolf and an Extinct Species of Deer from the Lead Region of the Upper Mississippi. (*Am. Journ. Sci. and Arts*, 1876, 3d Ser., XI. 47.)
7. Description of a new Generic Type (*Bassaricyon*) of Procyonidæ from Costa Rica. (*Proc. Acad. Nat. Sci. Phila.* 1876, 20.) *Bassaricyon gabbi*. gen. et sp. n.
8. Additional Note on *Bassaricyon gabbi*. (Id. 1877. 267.)
9. The Influence of Physical Conditions in the Genesis of Species. (*Radical Review*, 1877, I. 108.)
10. History of the American Bison, *Bison americanus*. (*Ninth Ann. Rep. U. S. Geol. Survey for the Year 1875*. 1877. 443: reprinted, with Additions and Revision, from *Mem. Geol. Surv. Kentucky*, 1876, I. pt. ii. and *Memoirs of the Mus. Comp. Zool.* IV., Pt. 10. 1876.)
11. Elliott Coues and J. A. Allen. Monographs of North American Rodentia. (*Rep. of the U. S. Geol. and Geogr. Survey of the Territories*. XI. Washington, 1877: 4°. i-x. 1-1091; pl. i-v.) Monograph II. Leporidae, by J. A. Allen, 265; Mon. III. Hystrioidae, do., 379; Mon. IV. Lagomyidæ, do., 399; Mon. V. Castoroididæ, do., 415; Mon. VI. Castoridae, do., 427; Mon. XI. Scuridæ, do., 631; Appendix A. Synoptical List of the Fossil Rodentia of North America, do., 943.
17. In *Proceedings of Boston Society of Natural History*: Notes on Massachusetts Reptiles and Batrachians, 1870, XIII. 260. [On Geographical Variation in Mammals and Birds], 1872, XV. 156. Geographical Variation in North American Birds, 1872, XV. 212. Metamorphism produced by the burning of Lignite Beds in Dakota and Montana Territories, 1874, XVI. 246. On Geographical Variation in Color among North American Squirrels; with a list of the Species and Varieties of the American Scuridæ occurring north of Mexico, 1874, XVI. 276. Notes on the Natural History of Portions of Dakota and Montana Territories, being the substance of a report to the Secretary of War on the collections made by the North Pacific Railroad Expedition of 1873, 1874, XVII. 33. (Also sep. pamph. of 61 pp. 8°, Boston, 1874.) [Note on *Ammodromus caudacutus* var. *Nelsoni*, var. n. from Illinois.] 1874, XVII. 292. Synopsis of the American Leporidae, 1875, XVII. 430.
18. In *Bulletin of U. S. Geol. and Geogr. Survey of the Territories*: Geographical Variation among North American Mammals, especially in respect to size, 1876, II. 309. Sexual, Individual and Geographical Variation in *Leucosticte tephrocotis*, 1876, II. 345. The Geographical Distribution of the Mammalia, considered in Relation to the principal Ontological Regions of the Earth, and the Laws that govern the distribution of Animal Life, 1878, IV. 313. Description of a Fossil Passerine Bird from the Insect-bearing Shales of Colorado, 1878, IV. 443. Synonymic List of the American Sciuri, or Arboreal Squirrels, 1878, IV. 877. On the Coatis (Genus *Nasua*, Storr). 1879, V. 153. On the Species of the Genus *Bassaris*, 1879, V. 331.

Mr. Allen edited the *Bulletin of the Nuttall Ornithological Club*. I-V. 1876-80. The following articles are by him :

19. Decrease of Birds in Massachusetts, 1876, I. 53. Geographical Variation in the Number and Size of the Eggs of [certain North American] Birds, 1876, I. 74. An Inadequate "Theory of Birds' Nests," 1878, III. 23. The Lark-Bunting (*Calamospiza bicolor*) in Massachusetts, 1878, III. 48. Occurrence of three Species of Sea-Ducks [*Edemia americana*, *E. fusca*, *E. perspicillata*] at St. Louis, Missouri, 1878, III. 148. The Carolinian Fauna, 1878, III. 149. The Snow-Bird [*Junco hyemalis*] in Summer on Mount Wachusett, [Mass.] 1878, III. 192. Sabine's Gull [*Xema Sabinei*] in Maine, 1878, III. 195. Nest and Eggs of the Cerulean Warbler [*Dendroica cerulea*], 1879, IV. 25. The Evening Grosbeak [*Hesperiphona vespertina*] in New Mexico, 1879, IV. 237. Eastward Range of the Western Meadow Lark [*Sturnella magna*, var. *neglecta*], 1880, V. 53. On Recent Additions to the Ornithological Fauna of North America, 1880, V. 85. Capture of Escaped Cage-birds having the Appearance of Wild Birds, 1880, V. 119. Note on the Little Brown Crane (*Grus fraterculus*, Cassin), 1880, V. 123. Destruction of Birds by Light-houses, 1880, V. 131. Origin of the Instinct of Migration in Birds, 1880, V. 151. List of the Birds of the Island of Santa Lucia, West Indies, 1880, V. 163. First Capture of the Blue Grosbeak [*Goniaphea cerulea*] in Massachusetts, 1880, V. 184.

** In addition to the above, Mr. Allen has written numerous reviews in periodicals. See also the Publications of the Museum of Comparative Zoology.

Joseph Henry Allen.

Lecturer on Ecclesiastical History, 1878-

1. Hebrew Men and Times from the Patriarchs to the Messiah. 2d ed. with Introduction. xxxvi., 435. Boston, 1879.
2. Fragments of Christian History, to the Foundation of the Holy Roman Empire. [Consisting of Introductory Address and Lectures delivered in course in the department of Ecclesiastical History.] xx. 284. Boston, 1880.
3. Contributions chiefly to the *Unitarian Review* for 1878-80, the most important of which are included in the above.
4. Annual Address before the Alumni of the Divinity School, June 29, 1880, "The Gospel of Liberalism"; included in a Pamphlet entitled
5. Three Phases of Modern Theology: Calvinism, Unitarianism, Liberalism. Boston, 1880. pp. 70.
6. Introduction to Latin Composition. Boston, 1880. (Prepared Part I. and edited the whole.)

James Barr Ames.

Tutor, 1871-1873; Assistant Professor of Law, 1873-1877. Professor of Law, 1877-

1. Cases on Torts. 1873-74.
2. Cases on Pleading at Common Law. 1874-75. pp. 300.
3. Article on "Harvard University" in Richardson and Clark's *College Book*. Boston, 1878. 40.

4. Cases on Bills and Notes. 2 vols. 1880.

5. Cases on Trusts. Pamphlet.

6. Cases on Partnership. Pamphlet.

** Nos. 1, 2, 4, 5 and 6 are printed, not published, being for use in the Law School.

John Gould Anthony.

Assistant in Conchology, 1870-1877.

** See the Reports of the Museum of Comparative Zoology.

Edward Payson Austin.

Assistant in the Observatory, 1869-1871.

** See the Annals of the Astronomical Observatory.

William Henry Baker.

Instructor in Diseases of Women, 1875-77.

1. Cases of Amenorrhœa resulting from Undeveloped Uteri. (*New York Medical Journal*, June 1873; also printed separately, New York, 1873, pp. 7.)
2. Mechanical Appliances in Uterine Surgery. (*Boston Medical and Surgical Journal*, Sept. 1875; XCIII. 275 and 296; also printed separately, Cambridge, 1875, pp. 12.)
3. Lacerations of the Cervix Uteri as a Cause of Uterine Disease. (*Boston Medical and Surgical Journal*, Sept. 1877; XCVII. 323.)
4. Malpositions of the Ureters. (*New York Medical Journal*, Dec. 1878.)
5. The Abuse of Caustic in Gynæcology. (*Boston Medical and Surgical Journal*, Aug. 1878; XCIX. 208.)
6. Dermoid Cyst of the Ovary. (Id. Nov. 1879; CI. 686.)
7. Reports of Recent Progress in Gynæcology [with results of personal experience, made twice each year for the Journal since Jan. 1878]. (Id. 1878-1880. XCVIII. 40; XCIX. 78; C. 121; CI. 51; CII. 33; CIII. 30.)

Henry Harris Aubrey Beach.

Assistant Demonstrator of Anatomy, 1868-1878.

Demonstrator of Anatomy, 1878-

1. Editorials and Reviews published in the *Boston Medical and Surgical Journal* while Assistant Editor [from June, 1869, to 1 July, 1871].
2. Review of a Case of Unique Tumor of the Bladder. (*Boston Med. and Surg. Journ.* Dec. 1870; LXXXIII. 357.)
3. Hip-Joint Dislocation: Report of Cases treated at the Massachusetts General Hospital. (Id. Feb. 1871; LXXXIV. 121.)
4. Description of a new [Mass. Gen. Hosp.] Sinus Dilator. (Id. March, 1871; LXXXIV. 163.)
5. Foreign Body in the Appendix Vermiformis; Peritonitis; Death; Autopsy. (*New York Medical Journal*, Oct. 1871; 397; republished in the *Med. Chir. Rundschau*, Vienna.)
6. On Ligature of the Subclavian Artery. (*London Medical Times and Gazette*, 18 Nov. 1871.)

7. Massachusetts General Hospital Reports published in the Journal during the year 1874. (*Boston Med. and Surg. Journ.* 1874; XC. and XCI.)
8. Description of a new Ligament, with illustration. Proceedings of the Boston Society for Medical Improvement. (Id. Feb. 1875; XCII. 202.)
9. Surgical Operations at the Massachusetts General Hospital. Reports for 1875. (Id. 1875; XCII. and XCIII.)
10. Description and Dissection of a Monstrosity. (Id. 1875; XCII. 595.)
11. Series of Surgical Cases. (Id. 1876; XCIV. 231.)
 - i. Dislocation of the Tendon of the Peroneus Longus Muscle.
 - ii. Fracture of the Tympanic Plate of the Temporal Bone.
 - iii. Compound Crucial Fracture of the Condyles of the Femur.
 - iv. Penetrating Gun-shot Wound of the Chest.
12. On Excision of the Elbow-Joint. With Cases and Results. Illustrated. (Id. Jan. 1877; XCVI. 1.)
13. Proceedings of the Boston Society for Medical Observation. Antiseptic Surgery. (Id. Jan. 1880; CII. 35.)
 - i. Complete Excision of the Elbow-Joint for gun-shot injury. Recovery with a useful arm.
 - ii. Compound Comminuted Fracture into the Ankle-Joint, railroad injury, and Simple Fracture of both Thighs in the same patient. Amputation of Leg. Recovery, with good Union of both Thighs.
 - iii. Two Cases of Ovariectomy.
14. Laceration of the Anus, Rectum, and Posterior Wall of the Bladder by Impalement. Recovery. Proceedings of the Boston Society for Medical Improvement. (Id. Jan. 1880.)
15. Proceedings of the Boston Society for Medical Observation (Id. March, 1880; CII. 249.)
 - i. Innominate Aneurism. [Treatment by Tufnell's Method.]
 - ii. Styrene, a New Antiseptic. A Description of its Properties.
 - iii. Two Cases of Recovery from Severe Injuries:—
 - (1.) Compound Comminuted Fracture of the Ulna, and Extensive Laceration of Soft Parts laying open the Elbow-Joint. Compound Fracture of the Tibia in close proximity to the Knee-Joint, and two Scalp-Wounds. Excision of Elbow-Joint and Free Incision of Knee-Joint.
 - (2.) Compound Comminuted Fractures of the Bones and Lacerations of the Soft Parts of both Legs, Ankle-Joints, and Feet. Double Amputation of Thighs.
16. Discussion on Hydrophobia. Proceedings of the Boston Soc. for Med. Improvement. (Id. May, 1880; CII. 489.)
17. Semi-Annual Reports on "Recent Progress in Surgery." (Id. June, 1880; CII. 535; and Dec. 1880; CIII. 589.)

Edmund Hatch Bennett.

Lecturer on Criminal Law and the Law of Wills, 1870-1871.

Mr. Bennett edited:

1. Story's Commentaries on the Law of Bailments. 8th ed. Boston, 1870. 8°.
2. W. W. Story's Treatise on the Law of Sales. 4th ed. Boston, 1871. 8°.
3. Story's Commentaries on the Conflict of Laws. 7th ed. Boston, 1872. 8°.

Henry Jacob Bigelow.

Professor of Surgery, 1849- .

1. Medical Education in America. Cambridge, 1871. pp. 83. (Also in *Med. Communications of Mass. Med. Soc.* XI. 181. Boston, 1874.)
2. Alleged Death from Ether. (*British Medical Journal.* Also *Boston Med. and Surg. Journal*, Nov. 1873; LXXXIX. 497.)
3. The True Neck of the Femur; its Structure and Pathology. (*Boston Med. and Surg. Journal*, Jan. 1875; XCII. 1, 25.)
4. Turbinate Corpora Cavernosa. (Id. April, 1875; XCII. 489.)
5. A History of the Discovery of Modern Anæsthesia. (*Am. Journal of the Medical Sciences*, 1876; LXXI. 164.)
6. New Methods in the Treatment of Exstrophy of the Bladder and of Erectile Tumors. (*Boston Med. and Surg. Journal*, Jan. 1876; XCIV. 1.)
7. Lithotripsy by a Single Operation. (*Am. Journal of Med. Sciences*, Jan. 1878; LXXV. 117. Also, with additions, in *Boston Med. and Surg. Journal*, Feb. and March, 1878; XCVIII. 259, 291.)
8. Rapid Lithotripsy with Evacuation. Boston and New York, 1878.
9. Litholopaxy. Letter to the London Lancet. (*Boston Med. and Surg. Journal*, May, 1879; C. 759.)
10. Two Lectures on the Modern Art of Promoting the Repair of Tissue. (Id. June, 1879; C. 769.)
11. Litholopaxy. (*New York Medical Record*, 1879; XV. 593. Also *Boston Med. and Surg. Journal*, June, 1879; C. 866.)
12. Litholopaxy. (*New York Medical Record*, 1879; XVI. 306.)
13. Litholopaxy. (*Boston Med. and Surg. Journal*, Oct. 1879; CI. 539.)
14. Litholopaxy. An Improved Evacuator. (Id. Jan. 1880; CII. 30.)

Clarence John Blake.

Clinical Lecturer on Otology, 1870- .

1. On the Etiology of Acquired Deaf-Mutism, having especial reference to the effects of Scarlet Fever. (*Boston Med. and Surg. Journal*, Dec. 1870; LXXXIII. 405.)

2. Rüdinger's Atlas of the Osseous Anatomy of the Human Ear. 9 photographic plates. Boston, 1870-74.
3. Parasitic Growths in the External Auditory Canal. (*Boston Medical and Surgical Journal*, Aug. 1871; LXXXV. 106.)
4. Report on Progress of Otology. Read before Am. Otological Society, 5th Ann. Meeting. Boston, 1872. pp. 46.
5. Summary of Experiments on the Perception of High Musical Tones. (*Transactions American Otological Society*, 5th Annual Meeting, 1872. Boston, 1874.)
6. Caries of the External Auditory Canal. (Id. 80.)
7. A Middle Ear Mirror. (Id. 83.)
8. Living Larvæ in the Human Ear. (*Archives of Ophthalmology and Otology*, II. No. 2. 37. New York, 1872.)
9. Reaction of the Auditory Nerve under the Influence of the Galvanic Current. (*Trans. Am. Otological Soc.* 6th Ann. Meeting. 116.)
10. Diagnostic Value of High Musical Tones. (Id. 118.)
11. Statistical Report of 1652 Cases of Diseases of the Ear. (*Arch. of Ophthalm. and Otol.* III. No. 1. 84.)
12. Clinical Lecture on Examination of the Ear. (*Boston Med. and Surg. Journal*, Sept. 1873; LXXXIX. 252.)
13. Mechanical Value of the Distribution of Weight in the Ossicula [Auditus]. (*Trans. Am. Otological Society*, 7th Ann. Meeting. Boston, 1874. 543.)
14. Perforations of the Membrane of Shrapnell in Purulent Inflammation of the Middle Ear. (Id. 546.)
15. Summary of Observations on the Effect of the Galvanic Current upon the Auditory Nerve. (*Archives of Scientific and Practical Medicine*, New York.)
16. Intra-Tympanic Pressure during Phonation. (*Trans. Am. Otological Soc.* 8th Annual Meeting. Boston, 1875. 75.)
17. A New Use of the Membrana Tympani in Physical Experiments. Illustrated Lecture before the Mass. Med. Soc. Ann. Meeting, 1875.
18. The Use of the human Membrana Tympani as a Phonograph and Logograph. (*Archives of Ophthalm. and Otology*, New York.)
19. The Application of Paper Dressings in the treatment of Perforations of the Membrana Tympani. (*Trans. International Otological Congress*, New York.)
20. On the Best Mode of Testing the Hearing of School Children. (*Trans. International Medical Congress of Philadelphia*, 1876. Phila. 1877. 992.)
21. Deafness in School Children. (*Social Science Congress*, Saratoga.)
22. Manometric Cicatrix of the Membrana Tympani. (*Archives of Ophthalm. and Otology*, New York.)
23. A Peculiar Form of Obstruction of the External Auditory Canal. (*Archives of Clinical Surgery*, New York.)
24. Sound in relation to the Telephone. (*Journal of Soc. of Telegraph Engineers*, London, 1878, VII. 247.)
25. The Ear and the Telephone. Illustrated Lecture, Harvard Nat. Hist. Soc.
26. Graphic and Photographic Illustration of Sound Waves. (*American Journal of Otology*, I.)
27. Logographic Value of Consonant Sounds in relation to their Transmission by Telephone. (Id.)
28. Later Experiments on the Audibility of High Musical Tones. (Id.)
29. A Physical Basis for the Use of "Bad Language," Logographic Experiments. (*Am. Assoc. for Advancement of Science*, Saratoga.)
30. Acupuncture and Drainage in the Treatment of Acute Inflammation of the Middle Ear. (*Trans. Am. Otological Soc.* 1879.)
31. Children's Earache. (*Boston Med. and Surg. Journal*, Feb. 1880; CII. 130.)
32. A Form of Middle Ear Syringe. (*Am. Journal of Otology*, II.)
33. On the Occurrence of Exostoses within the External Auditory Canal in Pre-Historic Man. (Id.)
34. The Membrana Tympani Telephone. (Id.)
35. Additional Cases of Manometric Cicatrix. (Id.)
36. Reports on the Progress of Otology. (*Trans. Am. Otological Soc.*, 1872, 1874, 1875, 1877, 1878. *Trans. Internat. Otological Congress*, 1876.)
37. Otological Reviews while Associate Editor of *Archives of Ophthalmology and Otology*, 1874-78. Editorials and Reviews as Editor of *American Journal of Otology*, 1879-80.
38. The Telephone and Microphone in Auscultation. (*Boston Med. and Surg. Journal*, Nov. 1880; CIII. 486.)

Edward Augustus Bogue.

Lecturer on Dental Pathology and Therapeutics, 1870-1875.

1. Bleaching Teeth. (*Dental Cosmos*, Jan. 1872; XIV. No. 1.)
2. The Physical Properties and Physiological Action of Dental Amalgams. (*Trans. of New York Odontological Society*, Dec. 1874; Phila. 1875. 43; and in *Dental Cosmos*, March, 1875; XVII. No. 3.)
3. Notes of Transplantation and Replantation of Teeth. (*Dental Cosmos*, July, 1877; XIX. No. 7, and *Trans. of the New York Odontological Society*, Jan. 1877.)
4. Cause and Treatment of Discoloration in Teeth. (*Dental and Oral Science Magazine*, May, 1878; I. No. 2.)

John Nelson Borland.

Instructor in Clinical Medicine, 1869-1875.

1. First Medical and Surgical Report of the Boston City Hospital. Edited by J. N. Borland and David W. Cheever. Boston, 1870. 1. 80.
2. Two Cases of Fracture of the Sternum. (*Boston Med. and Surg. Journal*, April, 1875; XCII. 492.)

Henry Pickering Bowditch.

Assistant Professor of Physiology, 1871-1876. Professor of Physiology, 1876 - .

1. Alcohol as a Nutritive Agent. (*Boston Med. and Surg. Journal*, June, 1872; LXXXVI. 413.)
2. Über die Eigenthümlichkeiten der Reizbarkeit welche die Muskelfasern des Herzens zeigen. (*Arbeiten a. d. phys. Anstalt zu Leipzig*, 6 Jahrgang, 139. Leipzig, 1872.)
3. Über die Interferenz des retardirenden und beschleunigenden Herznerven. (*Arbeiten a. d. phys. Anstalt zu Leipzig*, 7 Jahrgang, 259. Leipzig, 1873.)
4. The Lymph Spaces in Fasciæ with a new Method of Injection. (*Proceedings of the Am. Academy of Arts and Sciences*, Feb. 11, 1873; VIII. 508.)
5. The Influence of Anæsthetics on the Vaso Motor Centres. (With Mr. C. S. Minot.) (*Boston Med. and Surg. Journal*, May, 1874; XC. 493.)
6. A New Form of Inductive Apparatus. (*Proceedings of the Am. Academy of Arts and Sciences*, Oct. 12, 1875; XI. 181.)
7. Force of Ciliary Motion. (*Boston Med. and Surg. Journal*, Aug., 1876; XCV. 159.)
8. The Growth of Children. (*Eighth Ann. Report State Bd. of Health of Mass.* Boston, 1877, 275.)
9. Does the Apex of the Heart contract automatically? (*Journal of Physiology*, March, 1878; I. 104.)
10. A New Form of Plethysmograph. (*Proceedings of the Am. Acad. of Arts and Sciences*, May 14, 1879; XV. 22.)
11. The Effect of the Respiratory Movements on Pulmonary Circulation. (With Dr. George M. Garland.) (*Journal of Physiology*, Aug. 1879; II. 91.)
12. Physiological Apparatus in use at the Harvard Medical School. (*Journal of Physiology*, Sept. 1879; II. 202.)
13. The Growth of Children (a supplementary Investigation), with suggestions in regard to methods of Research. (*Tenth Ann. Report State Board of Health of Mass.* Boston, 1879, 33.)
14. The Collection of Data at Autopsies. (*Boston Med. and Surg. Journal*, Aug. 1880; CIII. 148.)
15. Reports on the Progress of Physiology. (*Boston Med. and Surg. Journal*, LXXXVIII-XCVIII. *passim*, Jan. and July of each year, from Jan. 1873 to July 1877 inclusive. Also May, 1878. Also Associate Editor of the *Journal of Physiology*, 1878- .

Francis Bowen.

Alford Professor of Natural Religion, Moral Philosophy and Civil Polity, 1853 - .

1. American Political Economy. New York, 1870. 80
2. The Psychological Effects of Etherization. (*The Spectator* [London], Dec. 27, 1873; XLVI. 1652.)
3. Modern Philosophy from Descartes to Schopenhauer and Hartmann. New York, 1877. 80.

4. Minority Report on the Silver Question, April, 1877. (*Report of Silver Commission*, I. 139. 44th Cong. 2d Sess.)
5. Dualism, Materialism, or Idealism? (*Princeton Review*, March, 1878.)
6. The Idea of Cause. (Id. May, 1879.)
7. Malthusianism, Darwinism, and Pessimism. (*North American Review*, Nov. 1879, CXXIX. 447.)
8. The Human and the Brute Mind. (*Princeton Review*, May, 1880.)
9. Gleanings from a Literary Life, 1838-1880. New York, 1880. 80.

Nos. 2, 4, 5, 6, 7, and 8 were reprinted in *Gleanings from a Literary Life*.

Charles Albert Brackett.

Instructor in Dental Therapeutics, 1874- .

1. Tribute to the Memory of Prof. T. B. Hitchcock: an extract from initial lecture on Dental Therapeutics, Oct. 7, 1874. (*In Memoriam. Thomas B. Hitchcock* [Boston, 1875], 16.)
2. Report on Dental Therapeutics. Transmitted to Ann. Meeting at Philadelphia, Aug. 1876. (*Trans. of American Dental Association at its Sixteenth Annual Session*, 123.)
3. Good Judgment an Essential Qualification for the Dentist. Read before the American Academy of Dental Science at Annual Meeting in Boston, Sept. 25, 1876. (*Johnstons' Dental Miscellany*, New York, Dec. 1876, 441.)
4. Is Irregular Dentition Hereditary? Transmitted to Ann. Meeting of the Society at Springfield, Mass. Oct. 18, 1876. (*Records of the Connecticut Valley Dental Society* from Oct. 1876 to June, 1879, inclusive; 29.)
5. Report on Dental Therapeutics. Transmitted to Annual Meeting at Chicago, Ill., Aug. 1877. (*Trans. of the Am. Dental Assoc. at its Seventeenth Ann. Session*, 143.)
6. Remarks on Induction to the Presidency of the Connecticut Valley Dental Society, at Ann. Meeting at Springfield, Mass., Oct. 22, 1878. (*Records of the Connecticut Valley Dental Soc.* from Oct. 1876, to June, 1879, inclusive; 155. Also in *Johnstons' Dental Miscellany*, New York, Dec. 1878, 453.)
7. Relations of the Profession and the Public. Read before the Conn. Valley Dental Soc. at Ann. Meeting at Springfield, Mass., Oct. 22, 1878; and before the Rhode Island Dental Soc. at Regular Meeting in Newport, Feb. 4, 1879. (*Records of the Conn. Valley Dental Soc.* from Oct. 1876 to June, 1879, inclusive; 166. Also in *Johnstons' Dental Miscellany*, New York, Feb. 1879, 41; reprinted in *Dental Register*, Cincinnati, O., Sept. 1880, 381.)
8. Supplementary Report on Dental Therapeutics: Certain Therapeutic Agents. Read at Ann. Meeting of Am. Dental Assoc. in Boston, Aug. 1880. (*Trans. of Am. Dental Assoc. at Twentieth Ann. Session*, 32.)
9. Improving the Condition of the Cemeteries in Peterboro'. Letter to the *Peterboro'* (*N. H.*) *Transcript*, Sept. 23, 1880.

William Henry Brewer.

University Lecturer on the Botany of the Pacific States,
1871-1872.

1. Polypetalæ [of California]. By W. H. Brewer and S. Watson. (*Geol. Survey of California*, Botany. I. Cambridge, 1876. 1. 8^o.)

George Russell Briggs.

Tutor in Mathematics, 1875- .

* * See the University Publications.

Howard Nicholson Brown.

Instructor in Homiletics, 1876-1877.

Various sermons in periodical and pamphlet form.

Edward Burgess.

Instructor in Entomology, 1879- .

1. Recent studies in Insect Anatomy. [Presidential Address before the Cambridge Entomological Club.] (*Psyche*, March, 1880; III. 27.)
2. The Structure and Action of a Butterfly's Trunk. (*American Naturalist*, May, 1880; XIV. 313.)
3. Contributions to the Anatomy of the Milk-Weed Butterfly, *Danaïd Archippus*. (*Anniversary Memoirs of Boston Society of Nat. Hist.*, Boston, 1880; printed separately, Boston, 1880; 16, 2 plates. 4^o.)

William Elwood Byerly.

Assistant Professor of Mathematics, 1876- .

1. Elements of the Differential Calculus, with Examples and Applications. Boston, 1880. 8^o.

Arthur Tracy Cabot.

Instructor in Oral Pathology and Surgery, 1878- .

1. Experiments upon the Strength of Antiseptics. (*Boston Med. and Surg. Journal*, Nov. 1879; CI. 755.)
2. Case of Postpharyngeal Tumor. (*Archives of Laryngology*, N. Y., I. No. 1.)
3. Surgical Diagnosis of Tumors, by Prof. A. Lücke. Translated by Dr. Cabot. Boston. [1880.]
4. The Antiseptic Treatment of Empyema. (*Trans. of Mass. Med. Soc.*, June, 1880. Also *N. Y. Med. Journal*, Aug. 1880.)

Lucien Carr.

Assistant Curator of the Peabody Museum, 1877- .

1. On the Prehistoric Remains of Kentucky. By Lucien Carr and N. S. Shaler. (*Memoirs of the Geological Survey of Kentucky*, I. Pt. 4. Cambridge, 1876. 8^o.)

2. Observations on Crania from California. (*Report upon United States Geographical Surveys West of the One Hundredth Meridian*, VII. Archæology. Washington, 1879. 4^o.)

* * See also the Reports of the Peabody Museum.

James Read Chadwick.

Lecturer on the Diseases of Women, 1873-1876.

1. Neugebauer's Specula. (*Boston Medical and Surgical Journal*, Feb. 1874; XC. 137.)
2. Report on Obstetrics and Diseases of Women. (Id. Feb. 1874; XC. 184 and 211.)
3. Transfusion. Read at the Ann. Meeting of the Mass. Med. Soc. in 1874. (Id. July 1874; XCI. 25.)
4. Temperance in Massachusetts. (Id. Aug. 1874; XCI. 194.)
5. A Case of Immediate Transfusion. (Id. Jan. 1875; XCII. 33.)
6. [Cases of] Ovariectomy. (Id. April 1875; XCII. 397.)
7. Extirpation of the Uterus by Abdominal Section. (Id. Nov. 1875; XCIII. 522.)
8. Cases of Echinococci in the Female Pelvis. (*Am. Journal of Obstetrics*. New York, 1875.)
9. The Climate and Diseases of America [during the Revolution]. By Dr. Johann David Schoepff. Translated by J. R. Chadwick. Boston, 1875. 8^o. pp. 31.
10. Injection of Fluid through the Abdominal Walls into the Large Intestine by means of the Trocar. (*Am. Journal of Obstetrics*, 1875.)
11. The Pathology and Treatment of Childbed. By Dr. F. Winckel. Translated from the German by J. R. Chadwick. Phila. 1876. 8^o. 484 pp.
12. The Medical Libraries of Boston. [1st Ann. Report of the Librarian of the Boston Medical Library Association.] Cambridge, 1876, pp. II. 4^o.
13. Clinical Lecture on the Diagnostic Value of Abdominal Palpitation in Pregnancy. (*American Practitioner*. Indianapolis.)
14. Transactions of the American Gynecological Society. I. Edited by the Secretary, J. R. Chadwick. Boston, 1877. 8^o.
15. Labor Complicated with Uterine Fibroids and Placenta Previa. (*Trans. Am. Gynecological Society*, I; also printed separately, pp. 13.)
16. Rare Forms of Umbilical Hernia in the Fetus. (Id.; also printed separately, pp. 19.)

Thomas Henderson Chandler.

Adjunct Professor of Mechanical Dentistry, 1869-1871.

Professor of Mechanical Dentistry, 1871- .

1. Dental Caries and its Causes. An Investigation into the Influence of Fungi in the Destruction of the Teeth. By Drs. Leber and Rottenstein. Translated by Dr. Chandler. Phila. 1873.
2. "Under which king, Bezonian?" (*Johnston's Dental Miscellany*, 1876.)
3. Discoloration of Gold Fillings. (Id. 1878.)
4. The Poisons of the Intelligence. Translated from the *Revue des Deux Mondes*. (Id. 1878.)

5. Original Caries. (Id. 1878.)
6. Magitot on Dental Caries. Translated by Dr. Chandler. Boston, 1878.
7. Dental Education. (*Johnston's Dental Miscellany*, 1878.)
8. Recent Progress in Dentistry. (*Boston Med. and Surg. Journal*, June, 1878; XCVIII. 728.)
9. Thumb-sucking in Childhood as a Cause of Subsequent Irregularity of the Teeth. (Id. Aug. 1878; XCIX. 204.)

David Williams Cheever.

Assistant Professor of Clinical Surgery, 1868-1875.
Professor of Clinical Surgery, 1875-.

1. First Medical and Surgical Report of the Boston City Hospital. Edited by J. N. Borland and D. W. Cheever. [Dr. Cheever was author of the Surgical portion.] Boston, 1870. 1. 8°.
2. How to Study Medicine; An Introductory Lecture, 1871. (*Boston Med. and Surg. Journal*, Oct. 1871; LXXXV. 209.)
3. Spontaneous Fracture. Boston, 1871. pp. 8.
4. Three Cases of Ovariectomy, of which two were successful. (*Boston Med. and Surg. Journal*, May, 1873; LXXXVIII. 537; also printed separately, Boston, 1873. pp. 8.)
5. Medical and Surgical Reports of the Boston City Hospital. 2d Series. Boston, 1877. 8°.
Dr. Cheever wrote the following: Unusual Operations on the Genital Organs, 39. On Excision of the Elbow-Joint, 143. Surgical Abstract, 215.
6. Removal of Tumors of the Tonsil by External Incision. (*Boston Med. and Surg. Journal*, Aug. 1878; XCIX. 133.)
7. Sixteen Clinical Lectures at the Boston City Hospital, 1878-9. Reported in *Boston Med. and Surg. Journal*, XCVIII. 33, 127, 223, 387, 587, 791. XCIX. 229, 325, 517, 645. C. 313, 381, 593, 737. CI. 1, 291.
8. Deep Abscess of the Neck.
9. Reasons for *Displacing* the Jaw in removing Naso-Pharyngeal Polypi.

Edward Hammond Clarke.

Professor of Materia Medica, 1855-1872.

1. The Physiological and Therapeutical Action of the Bromide of Potassium and Bromide of Ammonium. In Two Parts. By E. H. Clarke, M.D., and Robert Amory, M.D. Boston, 1872.
2. A new Rule for Doses. (*Boston Med. and Surg. Journal*, Sept. 1872; LXXXVII. 209.)

James Freeman Clarke.

Professor of Natural Religion and Christian Doctrine, 1867-1871. *Lecturer on Ethnic Religions*, 1876-1877.

1. Steps of Belief. Boston, 1870.
2. Ten Great Religions. An Essay in Comparative Theology. Boston, 1871.
3. Go Up Higher. Boston, 1877.

John Thomas Codman.

Instructor in Operative Dentistry, 1879-.

1. On the Preservation of all the Natural Teeth. (*Odontographic Journal*, Oct. 1880. Rochester, N. Y.)

Josiah Parsons Cooke.

Erving Professor of Chemistry and Mineralogy, 1850-.

1. First Principles of Chemical Philosophy. 2d ed. 1870. Several since.
2. The New Chemistry. 1st ed. 1873. Several since.
3. The Nobility of Knowledge. An Address delivered before the Free Institute at Worcester, July 28, 1874. (*Popular Science Monthly*, Sept. 1874; V. 610; printed separately, New York, 1874.)
4. Scientific Culture. [An Address delivered July 7, 1875, at the opening of the Summer Courses of Instruction in Chemistry at Harvard University.] (*Popular Science Monthly*, Sept. 1875; VII. 511; also in book form, London, 1876.)
5. "Gas." (*Johnson's New Universal Cyclopaedia*, New York, 1875.)
6. "Molecules." (*American Cyclopaedia*, New York, 1875.)
7. The Radiometer: A Fresh Evidence of a Molecular Universe. (*Popular Science Monthly*, May, 1878; XIII. 1.)
8. Absolute System of Electrical Measurements. Collected papers on this subject from *Journal of Franklin Institute* [1871].
9. Religion and Chemistry. Newly Revised Edition. 1880.
10. Articles in *Proceedings of American Academy of Arts and Sciences*, of which Mr. Cooke was Editor from 1877:—
 - (1) The Vermiculites; their Crystallographic and Chemical Relations to the Micæ. Dec. 9, 1873; IX. 35.
 - (2) Melanosiderite: a New Mineral species, from Mineral Hill, Delaware Co., Pa. May 11, 1875; X. 451.
 - (3) On Two New Varieties of Vermiculites with a Revision of the other Members of this Group. In Connection with F. A. Gooch. May 11, 1875; X. 453.
 - (4) On a New Mode of Manipulating Hydric Sulphide. May 30, 1876.
 - (5) On the Process of Reverse Filtering and its Application to Large Masses of Material. May 30, 1876.
 - (6) Revision of the Atomic Weight of Antimony. [June 12, 1877;] XIII. 1.
 - (7) Re-examination of some of the Haloid Compounds of Antimony. [June 12, 1877;] XIII. 72.
 - (8) The Atomic Weight of Antimony, Preliminary Notice of Additional Experiments. March 10, 1880; XV. 251.
11. Articles in the *American Journal of Science and Arts*, of which Mr. Cooke was Associate Editor from July, 1877:—

- (1.) Memoir of Thomas Graham. March, 1871.
- (2.) The Radiometer. Sept. 1877; CXIV. 231.
- (3.) Chemical Philosophy. March, 1878; CXV. 211.
- (4.) Boiling Point of Iodide of Antimony [and a Modification of the Air Thermometer]. May, 1878; CXV. 391.
- (5.) Notice of Berthelot's Thermo-Chemistry. April, 1880; CXIX. 261.
- (6.) Argento-antimonious Tartrate (Silver Emetic). [Contributions from the Chemical Laboratory of H. C.] May, 1880; CXIX. 393.
- (7.) The Oxidation of Hydrochloric Acid Solutions of Antimony in the Atmosphere. [Contributions from the Chemical Laboratory of H. C.] June, 1880; CXIX. 464.
- (8.) Numerous short notices.

Benjamin Robbins Curtis.

Lecturer in the Law School, 1872-1873.

1. Jurisdiction, Practice and Peculiar Jurisprudence of the Courts of the United States. [Lectures delivered at the Harvard Law School in 1872-73.] Edited by George T. and Benjamin R. Curtis. Boston, 1880.

Elbridge Gerry Cutler.

Assistant in Pathological Anatomy, 1878- .

1. Action of Phosphorus, Alkalies, and of Quinia on the Globular Richness of the Blood. By E. G. Cutler and E. H. Bradford. (*Am. Journal of Med. Sciences*, Oct. 1878.)
2. A Case of Lumbar Colotomy performed for the relief of temporary obstruction of the Bowels caused by Pelvic Peritonitis. By E. G. Cutler and J. Homans. (*Boston Med. and Surgical Journal*, Oct. 1878; XCIX. 429.)
3. Changes of the Globular Richness of Human Blood. By E. G. Cutler and E. H. Bradford. (*Journal of Physiology*, London, Jan. 1879; I. 427.)
4. A Guide to the Qualitative and Quantitative Analysis of Urine. By Dr. C. Neubauer and Dr. J. Vogel. Translated and edited by E. G. Cutler. Revised by Prof. E. S. Wood. New York. 1879. pp. 550.
5. The Anatomical Changes caused by Septicæmia and Pyæmia. (*Boston Med. and Surg. Journal*, July, 1879; CI. 145.)
6. Pathological Changes in Septicæmia and Pyæmia. (Id. March, 1880; CII. 302.)

Dr. Cutler has been the preparer of the Reports on the "Progress in Pathology and Pathological Anatomy," which have appeared in the *Boston Med. and Surg. Journal* in May, 1880; CII. 463, 485. He was also Secretary of the Boston Society for Medical Improvement in 1878 and 1879, and edited the Proceedings printed in the *Boston Med. and Surg. Journal*, XCIX. 498; C. 512.

William Morris Davis.

Instructor in Geology, 1878- .

1. Notice of Dr. B. A. Gould's "Uranometria Argentina." (*Harvard Register*, June, 1880; I. 122.)

Francis Winthrop Dean.

Tutor in Surveying and Drawing, 1874- .

1. The Dumpy Level. (*Engineering*, London, Jan. 1879; XXVII.)
2. The Circular Valves of the Mogul Locomotive of the Great Eastern Railway of England. (*Railroad Gazette*, New York, March, 1880; XII.)

George Derby.

Professor of Hygiene, 1870-1874.

1. Report of Secretary. (*1st Ann. Rep. of State Bd. of Health of Mass.* Boston, 1870; 7.)
2. Slaughtering for Boston Market. (Id. 20.)
3. Prevention of Disease. (Id. 42.)
4. Poisoning by Lead Pipes used for the Conveyance of Drinking Water. (*2d Ann. Rep.* Boston, 1871, 22.)
5. Trichina Disease in Massachusetts. (Id. 46.)
6. Health of Towns. (Id. 52.)
7. Causes of Typhoid Fever in Massachusetts. (Id. 110.)
8. Examination of the Water of Mystic Pond and of its Sources of Supply. (Id. 386.)
9. Mill-dams and other Water Obstructions. (*3d Ann. Rep.* Boston, 1872, 60.)
10. Slaughtering, Bone-boiling and Fat-melting. (Id. 224.)
11. Small-pox in Massachusetts. (Id. 298.)
12. Sewerage; Sewage; Pollution of Streams; The Water Supply of Towns. (*4th Ann. Rep.* Boston, 1873, 20.)
13. The Food of the People of Massachusetts. (Id. 237.)
14. Hospitals. (*5th Ann. Rep.* Boston, 1874, 315.)

Hasket Derby.

Lecturer on Ophthalmology, 1870-1871.

1. A Case of Melano-Sarcoma of Choroid, simulating Glaucoma. (*Boston Med. and Surg. Journal*, March, 1871; LXXXIV. 157.)
2. On the Importance of the Ophthalmoscope as an Aid to General Practice. (Id. March, 1871; LXXXIV. 205.)
3. A Lecture on the Prognosis of Cataract, and the Rules by which it is formed. (Id. April, 1871; LXXXIV. 221.)
4. The Modern Operation for Cataract. (Id. June, 1871; LXXXIV. 357.)
5. An Analysis of Sixty-one Cases of Extraction of Cataract by the Method of Graefe. (Id. June, 1871; LXXXIV. 379.)

Frank Winthrop Draper.

Lecturer on Hygiene, 1875-1878; Lecturer on Forensic Medicine, 1878-

1. Assistant Editor of the *Boston Med. and Surg. Journal*, 1872-6.
2. Reports on Recent Progress in Hygiene and Forensic Medicine. (*Boston Med. and Surg. Journal*, XCI. XCIII. XCV. XCVI. XCVIII. XCIX. C. and CII.)
3. Report on the Registry and Return of Births, Marriages and Deaths [in Massachusetts for the Years 1874, 1875, 1876, and 1877]. 4 vols. Boston.
4. Report on the Registration of Prevalent Diseases. (*Seventh Ann. Report of Mass. State Board of Health*, 475. Boston. 1876.)
5. Medical and Surgical Reports of Boston City Hospital. Second Series. Edited by D. W. Cheever and F. W. Draper. Boston, 1877.
6. Mortality Statistics [of the City of Boston] for 1876. (*Fifth Ann. Rep. of Board of Health of Boston*, 28. Boston, 1877.)
7. The Afflicted Classes [in Massachusetts: an Analysis of the Census of 1875]. (*Eighth Ann. Rep. of the Mass. Bureau of Statistics of Labor*, 157. Boston, 1877.)
8. On the Work and Duties of the Medical Examiner. (*Trans. of the Mass. Medico-Legal Soc.* I. 35. 1878.)
9. The Post-mortem Diagnosis of Certain Forms of Asphyxia. (*Boston Med. and Surg. Journal*, April, 1879; C. 561.)
4. The Action of the Intercostal Muscles. (*Boston Med. and Surg. Journal*, May, 1873; LXXXVIII. 435. Also printed separately.)
5. A Contribution to the Anatomy of the Jugular Foramen. (*Am. Journal of the Medical Sciences*, Oct. 1873.)
6. The Structure and Action of Striated Muscular Fibre. (*Proceedings of Boston Soc. of Nat. Hist.* Nov. 1873; XVI. 119. Also printed separately.)
7. An Abnormal Ischio-Trochanteric Ligament. (*Journal of Anatomy and Physiology* [England], Nov. 1873; VIII. 134.)
8. Remarks on the Position of the Femur, and on its so-called "True Neck." (*Journal of Anat. and Physiol.* [England], May, 1875; IX. 311.)
9. A Rare Form of Monstrosity. Two Cases of apparently true Hermaphroditism. [Written with Dr. W. L. Richardson.] (*Boston Med. and Surg. Journal*, Sept. 1875; XCIII. 377; also printed separately, Cambridge, 1875, pp. 10.)
10. The Anatomy of the Head. Boston, 1876.
11. Remarks on the Brain. Illustrated by the Description of the Brain of a Distinguished Man [Chauncey Wright]. (Read Dec. 12, 1877.) (*Proceedings of the Am. Acad. of Arts and Sciences*, XIII. 210. Also printed separately.)
12. The Identification of the Human Skeleton. A Medico-Legal Study. To which was awarded the Prize of the Mass. Med. Soc. for 1878. (*Medical Communications of the Mass. Med. Soc.*, Boston, 1878; XII. 165. Also printed separately.)
13. The Church and Medicine. (*Catholic World*, May, 1879; XXIX. 192.)
14. Skulls, Brains and Souls. (*International Review*, May, 1880; VIII. 493.)

Charles Franklin Dunbar.

Professor of Political Economy, 1871-

1. The International. (*Old and New*, March, 1872; V. 311.)
2. Cairnes's Principles of Political Economy. (*North American Review*, Jan. 1875; CXX. 214.)
3. Economic Science in America, 1776-1876. (Id. Jan. 1876; CXXII. 124.)
4. The Harvard Examinations for Women. (*Penn Monthly*, April, 1878; IX. 284.)

* * See also the Bulletin of the Library.

Thomas Dwight.

Instructor in Comparative Anatomy, 1872-1873; Instructor in Histology, 1874-

1. Description of the Whale (*Balenoptera musculus*) [With Remarks on the Classification of Fin Whales]. (*Proceedings of Boston Society of Nat. Hist.*, Feb. 1872; XV. 26. Also printed separately.)
2. Semi-annual Reports on the Progress of Anatomy in *Boston Med. and Surg. Journal* since Sept. 1872. Some reports are printed separately.
3. Associate editorship with J. C. Warren of the *Boston Med. and Surg. Journal*, from Jan. 1873 to Jan. 1878; LXXXVIII.-XCVIII.

Robert Thaxter Edes.

Assistant Professor of Materia Medica, 1870-1875; Professor of Materia Medica, 1875-

1. Practical Medicine as a Science: Annual Address to Norfolk District Medical Society. (*Boston Med. and Surg. Journal*, May, 1871; LXXXIV. 289.)
2. Cases of Leucocythæmia. (Id. July, 1871; LXXXV. 49.)
3. Elimination of Alcohol by the Kidneys and Breath. (Id. May, 1872; LXXXVI. 347.)
4. Reports on Therapeutics. (Id. LXXXVII.-XCII. 1872-75.)
5. Tumor affecting Nerves of Seventh Pair and Cerebellum upon Left Side. (Id. Jan. 1873; LXXXVIII. 97.)
6. Ecker's Cerebral Convolutions of Man. Translated by Dr. Edes. New York, 1873.
7. Pepsin. (*Boston Med. and Surg. J.*, Jan. 1874; XC. 3.)
8. Clinical Notes of Cases of Rheumatism. (Id. Feb. 1875; XCII. 191.)
9. Syphilitic Intracranial Disease. [With Dr. Chas. E. Stedman.] (*Am. Journal of Med. Sciences*, April, 1875.)
10. The Treatment of Typhoid Fever by Cold Baths. (*Boston Med. and Surg. J.*, July, 1875; XCIII. 89, and in *The Med. and Surgical Reports of the Boston City Hospital*, 205. 2d Series.)

11. Articles on *Materia Medica* (in conjunction with Dr. E. H. Clarke) in *Appleton's Am. Encyclopaedia*. New York, 1873-76.
12. Clinical Lecture on a Case of Facial Paralysis. (*Boston Med. and Surg. J.*, June, 1876; XCIV. 619.)
13. Medical Cases in Boston City Hospital. (Id. Aug. 1876; XCV. 207.)
14. On Certain Diseases of the Nervous Centres. (*Med. and Surg. Reports of Boston City Hospital*, 2d Series. 46. Boston, 1877.)
15. Microscopic Sections of Rabbit's Kidney, showing the action of the secreting Epithelium. (*Boston Med. and Surg. J.*, April, 1878; XCVIII. 474.)
16. What is the object of the Mass. Med. Soc. and how may it best be fulfilled? (Id. June, 1878; XCVIII. 724.)
17. Case of General Cancer including the Suprarenal Capsules, with Symptoms of Addison's Disease. (Id. Dec. 1878; XCIX. 788.)
18. Case of Anterior Spinal Paralysis. (Id. July, 1879; CI. 105.)
19. Fatal Puerperal Disease of Doubtful Character and Origin. (Id. Oct. 1879; CI. 626.)
20. Sarcoma of Lumbar Vertebrae. (Id. Nov. 1879; CI. 661.)
21. Cheyne-Stokes Respiration. (Id. Nov. 1879; CI. 734.)
22. Relation of Drug Manufacturers to Progress of Therapeutics. (Id. Jan. 1880; CII. 49.)
23. Abscess of Brain. (Id. May, 1880; CII. 447.)
24. Some of the Symptoms of Bright's Disease. Clinical Lectures. (Id. June, 1880; CII. 601; July, 1880; CIII. 1, 25.)
25. Mosler on Diseases of the Spleen. Translated by Dr. Edes. (*Ziemssen's Cyclopaedia*, VIII.)
26. Heubner on Syphilis of Nervous System. Translated by Dr. Edes. (Id. XII.)
27. Various Reviews in *Boston Med. and Surg. Journal* and *Am. Journal of Medical Sciences*.

Charles William Eliot.

President of Harvard College, 1869-

1. "A National University": a report made to the National Education Association at Elmira, Aug. 5, 1873. (*Proceedings of National Ed. Assoc.* Also printed separately, Cambridge, 1874, pp. 23.)
2. The Exemption from Taxation of Church Property, and the Property of Educational, Literary, and Charitable Institutions. [Dec. 12, 1874.] (*Rep. Mass. Commissioners to Revise Laws on Taxation and Exemption therefrom*. Appendix. 367. Boston, 1875. 80; and printed separately [Boston, 1875], pp. 28.)
3. Congratulatory Address. (*Addresses at the Inauguration of Daniel C. Gilman as President of the Johns Hopkins University*, Feb. 22, 1876. 5. Baltimore, 1876.)
4. English and American Universities Compared. (*North American Rev.* March-April, 1878; CXXVI. 217.)
5. Address before the American Academy of Dental Science at 11th Ann. Meeting, Oct. 1878. Cambridge, 1879, pp. 30.

6. Address at the Semi-Centennial Anniversary of the Boston Society of Natural History. (*Anniversary Memoirs of the Boston Soc. of Nat. Hist.*, Boston, 1880.)

. See also the University Publications.

Calvin Ellis.

Jackson Professor of Clinical Medicine, 1867-

1. The Tendency of so-called Local Diseases to Generalization. (*Boston Med. and Surg. Journal*, Oct. 1870; LXXXIII. 229.)
2. Vomiting as the sole prominent sign of Disease of the Kidneys. (Id. June, 1871; LXXXIV. 425.)
3. Autopsy of the Double Monster (*Ischiopagus Tripus*), born in Ohio and lately exhibited in Boston. (Id. Oct. 1871; LXXXV. 218.)
4. The Curved Line of Dulness in cases of Pleuritic Effusion. (Id. Jan. 1874; XC. 12; Feb. 1874; XC. 173.)
5. A Case of Echinococcus Cyst. (Id. May, 1874; XC. 553.)
6. Ovarian Cysts. (Id. Aug. 1874; XCI. 182, and Oct. 1874; XCI. 396.)
7. Capillary Bronchitis of Adults. A Series of American Clinical Lectures. New York, 1876.
8. General Softening of the Brain seldom seen as a Pathological Condition, never as a Clinical Disease. (*Boston Med. and Surg. Jour.*, Jan. 1876; XCV. 29.)
9. The Curved Line of Pleuritic Effusion. (Id. Dec. 1876; XCV. 689.)
10. Constant Irrigation in Chronic Cystitis. (Id. April, 1877; XCVI. 393.)
11. The Point of Origin of so-called Bronchial Respiration. (Id. July, 1877; XCVII. 1.)
12. Ulcerative Endocarditis; Embolism of the Arteries of the Left Leg. (Id. Nov. 1877; XCVII. 549.)
13. Osteomalacia in a Man. (Id. Jan. 1878; XCVIII. 5.)
14. Chest Expansion in Pleurisy. (Id. Feb. 1879; C. 196.)
15. Chronic Bronchitis with Dilatation of the Bronchi. (Id. July, 1879; CI. 162.)
16. Probable Acute Nephritis. (Id. Nov. 1879; CI. 696.)
17. A Large Effusion of Blood into the Left Hemisphere and Lateral Ventricle; immediate and continued unconsciousness without localized paralysis; continued and marked rise of temperature. (Id. Dec. 1879; CI. 876.)
18. The Significance of Albuminuria as a Symptom. (Id. April, 1880; CII. 361, 388, 414.)

Ephraim Emerton.

Instructor in History, 1876-

1. Sir William Temple und die Tripleallianz vom Jahre 1668. Berlin, 1877. 80. pp. 93.

. See also the Bulletin of the Library.

Henry Lawrence Eustis.

Professor of Engineering, 1849- .

Professor Eustis has written the following book-notices:—

1. Strength and Determination of the Dimensions of Structures of Iron and Steel. By Dr. Ph. J. J. Weyrauch. (*American Architect and Building News*, 1877; II. 142.)
2. The Cambridge Boiler Explosion. An Examination of the Attack in the columns of the Boston Daily Advertiser upon the Judicial Decision. By I. R. Robinson. (Id. 1878; IV. 162.)
3. Government Tests of Wrought-Iron and Chain-cables. Experiments on the Strength of Wrought-Iron and Chain-cables. Report by Commander L. A. Beardslee, U. S. N. Revised and abridged by William Keut, M. E. (Id. 1880; VII. 183.)
4. Trusses and Arches analyzed and discussed by Graphical Methods. By Charles E. Greene, Prof. of Civil Engineering, University of Michigan. (*Harvard Register*, March, 1880; I. 68.)

*** Professor Eustis printed in 1878, in the *New Eng. Hist. and Genealogical Register*, a Genealogy of the Eustis family, which was afterwards issued in pamphlet form.

Charles Carroll Everett.

Bussey Professor of Theology, 1869- .

1. Immortality. (*Old and New*, Sept. 1871; IV. 313.)
2. The Epistle to the Hebrews. (*Monthly Religious Magazine*, Dec. 1871; XLVI. 485.)
3. "Joint Heirs with Christ." A Christmas Sermon preached in the First Parish Church in Cambridge, Dec. 24, 1871. Cambridge, 1872, pp. 18.
4. The Relation of Jesus to the Present Age. (In *Christianity and Modern Thought*. [Published by Am. Unitarian Assoc.] Boston, 1872. 129.)
5. "The City that hath Foundations." A Sermon preached before the National Conference of Unitarian and other Christian Churches in Boston, 1872. (*Proceedings of the Conference*.)
6. A Sermon for Winter. (*Monthly Religious Magazine*, Jan. 1874; LI. 19.)
7. Mysticism. (*Unitarian Review*, March, 1874; I. 5.)
8. The Gain of History. An Oration given before the Phi Beta Kappa Fraternity of Harvard College. (Id. Aug. 1874; II. 16.)
9. The Tragic Element in Literature and Life. (Id. Jan. 1875; III. 1.)
10. The Known and the Unknowable in Religion. (Id. May, 1875; III. 445.)
11. The Scottish Philosophy. (Id. July, 1875; IV. 24.)
12. The Cosmic Philosophy. (Id. May, 1876; V. 482.)
13. The New Ethics. An Essay read before the National Conference of Unitarian and other Christian Churches at Saratoga, 1878. (*Proceedings of the Conference*. Also in *Unitarian Review*, Oct. 1878; X. 408.)

14. "Leonard Woods." A Discourse before Bowdoin College and the Maine Historical Society, July 9, 1879. (*Proceedings of Maine Hist. Soc.* Also printed separately as a pamphlet.)
15. The Relation of Philosophy and Modern Liberalism. Read before the Ministers' Institute held at Providence, R. I. (*Institute Essays*, Boston, 1880. Also in *Unitarian Review*, Dec. 1879; XII. 602.)
16. The Data of Ethics. (*Unitarian Review*, Jan. 1880; XIII. 43.)

William Gilson Farlow.

Assistant in Botany, 1870-1872; Assistant Professor of Botany, 1874-1879; Professor of Cryptogamic Botany, 1879- .

1. Cuban Seaweeds. (*Am. Naturalist*, June, 1871; V. 201.)
2. List of the Seaweeds or Marine Algæ of the South Coast of New England. (*Report of U. S. Commission of Fish and Fisheries for 1871-2*, 281. Washington, 1873.)
3. An Asexual Growth from the Prothallus of *Pteris serrulata* [*P. cretica*]. (*Proc. Am. Acad. of Arts and Sciences* [Jan. 1874], IX. 68; and *Quarterly Journal of Microscopical Science*, New Series, XIV.)
4. Notes from the Journal of a Botanist in Europe. (*Am. Naturalist*, Jan. Feb. and May, 1874; VIII. 1, 112, 295.)
5. Ueber ungeschlechtliche Keimpflanzen an Farnprothallien. (*Botanische Zeitung*, 1874.)
6. List of the Marine Algæ of the United States, with Notes of New and Imperfectly Known Species. (*Proc. Am. Acad. of Arts and Sciences* [March 9, 1875]; X. 351.)
7. Algæ [of Kerguelen Island]. (*Bulletin U. S. National Museum*, No. 3, Contributions to Nat. Hist. of Kerguelen Island; 30. Washington, 1876.)
8. Gustave Thuret. (*London Journal of Botany*, Jan. 1876.)
9. University Instruction in Botany. (*Am. Naturalist*, May, 1876; X. 287.)
10. List of the Marine Algæ of the United States. (*Report U. S. Fish. Comm. for 1875-76*.)
11. Articles on Botany in *Johnson's Cyclopædia*; and Record of Botany in *Annual Record of Science and Industry*, 1875-8.
12. Report on a Peculiar Condition of the Water supplied to the City of Boston. (With W. R. Nichols and E. Burgess.) Boston, 1876. (Also in *Report of Cochituate Water Board*, Boston, 1876.)
13. On some Algæ New to the United States. (*Proc. Am. Acad. of Arts and Sciences*. [May 9, 1877.]
14. Onion Smut. (24th *Ann. Report of Secretary of Mass. Board of Agriculture for 1876*. Part 2, 164. Boston, 1877.)
15. Diseases of Fruit-bearing Trees. (25th *Ann. Report of Sec. of Mass. Bd. of Agriculture for 1877*, 218, 231. Boston, 1878.)
16. The Seaweeds of Salt Lake. (*Am. Nat.*, Nov. 1879; XIII. 701.)
17. On the Nature of the Peculiar Reddening of Salted Codfish during the Summer Season. (*Rep. U. S. Fish Comm.* 1880.)

- (b) Pollution of Streams; Disposal of Sewage; Drainage and Health. (*Eighth Ann. Rep.* 21, 80, 113.)
- (c) Registration of Deaths and of Diseases. (Id. 12, 231.)
- (d) Disease of the Mind. (Id. 13, 325.)
- (e) Drainage and Health; Sewerage; Pollution of Streams. (*Ninth Ann. Rep.* 3.)
- (f) Diphtheria in Gloucester. (Id. 463.)
3. The Present Aspect of the Sewage Question as applied to Boston: a paper read before the American Statistical Association, Boston, April 20, 1877. Boston, 1877.
4. Disease of the Mind. [Reprinted from Mass. State Bd. of Health Reports.] Boston, 1877.
5. Editorial and introductory portion (summary) of *Thirty-Seventh and Thirty-Eighth Ann. Reports of Registry and Return of Births, Marriages and Deaths in Mass.* [for 1878 and 1879].
6. [The Causes of] Typhoid Fever. (*Boston Med. and Surg. J.*, March, 1880; CII. 227.)
7. Cases of Insanity and of Fanaticism. [Pocasset Murder.] (Id. March, 1880; CII. 265.)
8. Editorial portion of Health Supplement of *First Ann. Rep. of Mass. State Bd. of Health, Lunacy and Charity*, for 1879. Boston, 1880. Also in this volume: The Pollution of Streams, Supplement. 1.
9. Contributions to the *Boston Med. and Surg. Journal*, *Boston Daily Advertiser*, and other papers.

Henry Gannett.

Assistant in Observatory, 1870-1871.

1. Report on Astronomy and Hypsometry. (*Ann. Rep. U. S. Geol. Survey of Territories for 1872*, 793. Washington, 1873.)
2. Lists of Elevations principally West of the Mississippi River. 2d ed. Washington, 1873 [3d ed. 1875; 4th ed. (with a hypsometric map of the U. S.) 1877]. (*U. S. Geol. Survey of the Territories*. Miscell. Pub. No. 1.)
3. Meteorological Observations for 1872 in Utah, Idaho, and Montana. (Id. Misc. Pub. No. 2. Washington, 1873.)
4. Geographical Report. (*Ann. Rep. U. S. Geol. Survey of Terr. for 1873*, 670. Washington, 1874.)
5. Geographical Report. (Id. for 1874, 413. Washington, 1876.)
6. Topographical Report [for 1875 and 1876]. (*Ann. Rep. U. S. Geol. Survey of Terr. for 1875*, 335. Washington, 1877.)
7. Geographical Report. (Id. for 1877.)
8. The Atlas of Colorado [in which Mr. Gannett's topographical work, with that of his associates, is embodied]. 1877.

George Minot Garland.

Assistant in Physiology, 1877-.

1. Pneumono-Dynamics. New York, 1878. 80.
2. Pneumono-Dynamics. Lecture. (*Proc. of Med. Soc. of County of Kings*, June, 1878.)

3. Pharyngeal Respiration. (*Journal of Physiology*, May, 1879; II. 82.)
4. The Effect of the Respiratory Movements on the Pulmonary Circulation. (In connection with Prof. H. P. Bowditch.) (*Journal of Physiology*, Aug. 1879; II. 91.)
5. The Letter S. Curve. (*New York Medical Journal*, Nov. 1879.)
6. Negative Pressurc. (*The Medical Record*, Dec. 1879.)

Samuel Garman.

Assistant in Herpetology, 1874-.

1. Description of a New Species of North American Serpent. (*Proc. Boston Soc. Nat. Hist.*, June, 1874; XVII. 92.)
2. On the Skates (Rajæ) of the Eastern Coast of the United States. (Id. Nov. 1874; XVII. 170.)
3. Notes on some Fishes and Reptiles from the Western Coast of South America. (Id. Dec. 1875; XVIII. 202.)
4. Reptiles and Batrachians collected by Allen Lesley, Esq., on the Isthmus of Panama. (Id. June, 1876; XVIII. 402.)
5. On a Variation in the Color of Animals. (*Proc. Am. Assoc. for the Advancement of Science*, Aug. 1876, 187.)
6. On the Pelvis and External Sexual Organs of Selachians, with especial reference to the New Genera *Potamotrygon* and *Disceus*. (*Proc. Boston Soc. Nat. Hist.*, May, 1877; XIX. 197.)
7. Pseudis, "The Paradoxical Frog." (*American Naturalist*, Oct. 1877; XI. 587.)

** See also the Bulletin and Reports of the Museum of Comparative Zoology.

Wolcott Gibbs.

Rumford Professor and Lecturer on the Application of Science to the Useful Arts, 1863-.

1. Contributions to Chemistry from the Laboratory of the Lawrence Scientific School. No. 12. (*Am. Journal of Science and Arts*, Sept. 1870; L. 240.)
2. Analytical Notices. (Id. Feb. 1873; 3d Series, V. 110.)
3. Researches on the Hexatomic Compounds of Cobalt. Part I. (*Proc. Am. Academy of Arts and Sciences*, X. 1.)
4. Optical Notices. (Id. X. 401.)
5. Researches on the Hexatomic Compounds of Cobalt. Part II. (Id. XI. 1.)
6. Researches on the Complex Inorganic Acids. Part I. (Id. XV, 1.)
7. The Same. Part I. [Continued.] (Id. XVI. 109.)

** See also the Bulletin of the Library.

Frank Austin Gooch.

Assistant in Chemical Laboratory, 1874-1875.

1. [In connection with Prof. J. P. Cooke.] On Two New Varieties of Vermiculites, with a Revision of the other Members of this Group. [May

- 11, 1875.] (*Proc. Am. Acad. of Arts and Sciences*, X. 453.)
2. Ueber Vulkanische Gesteine der Galapagos Inseln. (*Tschermak's Mineralogische Mittheilungen* for 1876. 133.)
 3. Bemerkungen über die Pechsteine von Arran. (Id. for 1876. 185.)
 4. On a New Method for the Separation and Subsequent Treatment of Precipitates in Chemical Analysis. [Feb. 13, 1878.] (*Proc. Am. Acad. of Arts and Sciences*, XIII. 342. Reprinted in *American Chemical Journal*, I. 317. Copied into *Chemical News*, XXXVII. 181; and into *New Remedies*, VII. 290.)
 5. On the Estimation of Phosphoric Acid as Magnesian Pyrophosphate [Oct. 8, 1879]. (*Proc. Am. Acad. of Arts and Sciences*, XV. 53. Reprinted in *Am. Chemical Journal*, I. 391.)
 6. A New Form of Absorption-Apparatus for Use in estimating Ammonia. (Id. I. 450.)

George Lincoln Goodale.

Assistant Professor of Vegetable Physiology, 1873-1878;
Professor of Botany, 1878-

1. Hybrids and Hybridization in Plants. A Lecture. (*Twenty-fifth Ann. Rep. of Mass. Bd. of Agriculture* for 1877, 156. Boston, 1878.)
2. Recent Researches in regard to Seeds and their Germination. A Lecture. (*Ann. Rep. Mass. Board of Agriculture.*)
3. "Vegetable Histology." (*Johnson's New Universal Cyclopaedia*. New York, 1878.)
4. "Vegetable Physiology." (Id.)
5. Concerning a few Common Plants. Boston, 1879.
6. Wild Flowers of North America. Plates by Isaac Sprague. 40. [Now publishing.]

* * See also the Bulletin of the Library.

William Watson Goodwin.

Eliot Professor of Greek Literature, 1860-

1. An Elementary Greek Grammar. xx. 242. Boston, 1870.
2. Plutarch's Morals. Translated from the Greek by Several Hands [London, 1684-1694]. Revised by W. W. Goodwin; with introd. by R. W. Emerson. Boston, 1870. 5 vols.
3. Greek Reader, consisting of selections from Xenophon, Plato, Herodotus and Thucydides. Edited by W. W. Goodwin and J. H. Allen. Boston, 1871.
4. On the Aorist Subjunctive and Future Indicative with *ἦναι* and *ὄν μὴ*. (*Trans. Am. Philol. Assoc.* 1869-70. 46. Hartford, 1871.)
5. Syntax of the Moods and Tenses of the Greek Verb. Fifth ed. Revised and modified in parts. Boston, 1873. (Republished with special title by E. Johnson, Cambridge, England. Sixth and later editions have been republished by Macmillan & Co., London.)
6. On the Classification of Conditional Sentences in Greek Syntax. (*Trans. of Am. Philol. Assoc.*, 1873. Previously printed in *Journal of Philology*, V. 186. London and Cambridge, 1873.)

7. On "Shall" and "Should" in Protasis, and their Greek Equivalents. (*Trans. Am. Philol. Assoc.*, 1876. Reprinted in *Journal of Philology*, VIII. 18. London and Cambridge, 1879.)
8. Mycenæ. (*Nation*, No. 601 [Jan. 4, 1877]; XXIV. 6.)
9. Greek Reader. Second ed. [Same as No. 3, with Anabasis I. and II. substituted for Anabasis III. and IV.] Boston, 1877.
10. Selections from Xenophon and Herodotus. Edited by W. W. Goodwin and John W. White. [Same as last, with Anabasis III. and IV. substituted for extracts from Xenophon's Memorabilia, Plato, and Thucydides.] Boston, 1877.
11. Xenophon's Anabasis, Books I.-IV. Edited by W. W. Goodwin and J. W. White. [Same as the Anabasis in last work.] Boston, 1877.
12. On the Text and Interpretation of certain passages in the Agamemnon of Aeschylus. (*Trans. Amer. Philol. Assoc.*, 1877.)
13. Review of Schliemann's "Mycenæ." (*Nation*, Nos. 658 and 659 [Feb. 7 and 14, 1878]; XXVI. 8, 116.)
14. An Elementary Greek Grammar. Revised and enlarged edition. [Same as No. 1, rewritten and greatly enlarged.] xxviii. 393. London, 1879.
15. The Same. Boston, 1879.
16. On *δικαι ἀπὸ συμβόλων*, and *δικαι συμβόλαιαι* of Thuc. I. 77. (*Am. Journal of Philology*, Feb. 1880; I. 4.)
17. Review of Stewart and Long's "Plutarch," Vol. I. (*Nation*, No. 805 [Dec. 2, 1880]; XXXI. 395.)
18. Review of Schliemann's "Ilios." (Id. Nos. 815 and 816 [Feb. 10 and 17, 1881]; XXXII. 96.)

Asa Gray.

Fisher Professor of Natural History, 1842-

1. Botanical Contributions. June, 1870. (*Proc. American Academy of Arts and Sciences*, VIII. 243.)
 - i. Reconstruction of the Order Diapensiaceæ.
 - ii. Revision of the North American Polemoniaceæ.
 - iii. Miscellaneous Botanical Notes and Characters.
2. A New Species of Erythronium. (*Canadian Naturalist*, V. *American Naturalist*, July, 1871; V. 298.)
3. Botanical Contributions. Feb. 1872. (*Proc. Am. Acad. of Arts and Sciences*, VIII. 365.)
 - i. Notes on Labiataæ.
 - ii. Determinations of a Collection of Plants made in Oregon by Elihu Hall, during the summer of 1871, with Characters of some New Species and various Notes.
4. Address before the American Association for the Advancement of Science at Dubuque, Iowa, August, 1872. (*Proc. A. A. S. I.* Cambridge, 1873. Also, without the Appendix, *American Journal of Science and Arts*, 3d Ser. IV. 282. And [under the title, Sequoia and its History] in *American Naturalist*, VI. 577. And in part [under the title, The Origin of the Flora of Atlantic North America] in *Trimen's Journal of Botany*, X. 309.)

5. Botany for Young People, Part II. How Plants Behave. New York and Chicago, 1873. pp. 46. sm. 4^o.
6. John Torrey: A Biographical Notice. June, 1873. (*Am. Jour. of Science and Arts*, 3d Ser. V. 411. *Proc. Am. Acad. of Arts and Sciences*, IX. 262. Also printed separately.)
7. Botanical Contributions. May, 1873. (Id. VIII. 620.)
 - i. Characters of New Genera and Species of Plants.
 - ii. Notes on Compositæ, and Characters of certain Genera and Species, etc. [Part I.]
8. William B. Sullivant: A Biographical Notice. July, 1873. (*Am. Jour. of Science and Arts*, 3d Ser. VI. i; *Proc. Am. Acad. of Arts and Sciences*, IX. 271.)
9. Botanical Contributions. May, 1874. [Part II. of No. 7, ii.] (Id. IX. 187.)
10. Charles Robert Darwin. June, 1874. (*Nature*, X. 79. *American Naturalist*, Aug. 1874; VIII. 473.)
11. Phanerogamia of the Pacific Coast of North America. By John Torrey. (Edited by Dr. Asa Gray.) July, 1874. (*United States Exploring Expedition, during the Years 1838-1842, under the Command of Charles Wilkes, U. S. N.* XVII. 205.)
12. Jeffries Wyman. Address at the Memorial Meeting of the Boston Society of Natural History. Oct. 7, 1874. (*Proc. Boston Soc. Nat. Hist.* XVII. 96. *Am. Jour. of Science and Arts*, 3d Ser. IX. 81, 171.)
13. Botanical Contributions. May and Oct. 1874. (*Proc. Am. Acad. of Arts and Sciences*, X. 39.)
 - i. A Synopsis of the North American Thistles.
 - ii. Notes on Borraginacæ.
 - iii. Synopsis of North American Species of Physalis.
 - iv. Characters of various New Species.
14. Do Varieties wear out, or tend to wear out? (*New York Semi-Weekly Tribune*, Dec. 8, 1874. *Am. Journ. of Science and Arts*, 3d Ser. IX. 109.)
15. Botanical Contributions. A Conspectus of the North American Hydrophyllacæ. March, 1875. (*Proc. Am. Acad. of Arts and Sciences*, X. 312.)
16. Bentham on the recent Progress and present State of Systematic Botany. April, 1875. (*Am. Jour. of Science and Arts*, 3d Ser. IX. 288, 346.)
17. Miscellaneous Botanical Contributions. Oct. 1875. (*Proc. Am. Acad. of Arts and Sciences*, XI. 71.)
18. Aestivation and its Terminology. Nov. 1875. (*Am. Jour. of Science and Arts*, 3d Ser. X. 339.)
19. Burs in the Borage Family. (*American Naturalist*, Jan. 1876; X. 1.)
20. Botany [of California]. Vol. I. Polypetalæ, by W. H. Brewer and Sereno Watson. Gamopetalæ (also Astragalus and Saxifragacæ), by Asa Gray. Cambridge, 1876. (In a volume of the *California Geological Survey*.)
21. Our Wild Gooseberries. (*American Naturalist*, May, 1876; X. 270.)
22. Darwiniana: Essays and Reviews pertaining to Darwinism. New York, 1876. 8^o.
23. Botanical Contributions. Dec. 1876. (*Proc. Am. Acad. of Arts and Sciences*, XII. 51.)
 - i. Characters of Canbya (n. gen.) and Arctomecon.
 - ii. Characters of New Species, etc.
24. Notice of Darwin on the Effects of Cross- and Self-Fertilization in the Vegetable Kingdom. Feb. 1877. (*Am. Jour. of Science and Arts*, 3d Ser. XIII. 125.)
25. Botanical Contributions. Characters of some little-known or new Genera of Plants. May, 1877. (*Proc. Am. Acad. of Arts and Sciences*, XII. 159.)
26. Notes on the History of Helianthus tuberosus, the so-called Jerusalem Artichoke. By J. Hammond Trumbull and Asa Gray. May, 1877. (*Am. Jour. of Science and Arts*, 3d Ser. XIII. 347.)
27. The Germination of the Genus Megarrhiza, Torr. July, 1877. (Id. XIV. 21.)
28. Botanical Contributions. Jan. 1878. (*Proc. Am. Acad. of Arts and Sciences*, XIII. 361.)
 - i. Elatines Americanæ.
 - ii. Two New Genera of Acanthaceæ.
 - iii. New Astragali.
 - iv. Miscellanæ.
29. Synoptical Flora of North America. Vol. II. Part I. Gamopetalæ after Compositæ. New York, 1878. 1. 8^o.
30. Forest Geography and Archæology. A Lecture delivered before the Harvard University Natural History Society, 18 April, 1878. (*Am. Jour. of Science and Arts*, Aug. and Sept. 1878, 3d Ser. XVI. 85, 183.)
31. Dr. Jacob Bigelow. April, 1879. (Id. XVII. 263.)
32. The Botanical Text-Book. (Sixth Edition.) Part I. Structural Botany or Organography on the basis of Morphology. New York and Chicago, 1879. 8^o. Third Issue, with Addenda. 1880.
33. The Pertinacity and Predominance of Weeds. Sept. 1879. (*Am. Jour. of Science and Arts*, 3d Ser. XVIII. 161.)
34. Botanical Contributions. Oct. 1879. (*Proc. of Am. Acad. of Arts and Sciences*, XV. 25.)
 - i. Characters of some New Species of Compositæ in the Mexican Collection made by C. C. Parry and Edward Palmer; chiefly in the Province of San Luis Potosi in 1878.
 - ii. Some New North American Genera, Species, etc.
35. De Candolle's Phytography. Aug. and Sept. 1880. (*Am. Jour. of Science and Arts*, 3d Ser. XX. 150, 241.)
36. Botanical Contributions. Sept. 1880. (*Proc. Am. Acad. of Arts and Sciences*, XVI. 78.)
 - i. Notes on some Compositæ.
 - ii. Some Species of Asclepias.
 - iii. A New Genus of Gentianacæ.
 - iv. Miscellanæ of the North American Flora.
37. Natural Science and Religion. Two Lectures delivered at the Theological School of Yale College. New York, 1880. 8^o.
38. In addition to the above, numerous Notes, Notices, etc., have appeared in the *Am. Jour. of Science and*

Arts (see Index at end of 3d Ser. X. and XX.), and in the *Bulletin of the Torrey Botanical Club* and *Coulter's Botanical Gazette*, as well as various contributions (botanical and otherwise) in the *American Agriculturist*, *Independent*, *Nation*, etc.

* * See also the Reports of the Peabody Museum.

John Orne Green.

Lecturer on Otology, 1871- .

1. Progress of Otology. (*Trans. Am. Otological Soc. 1870.*)
2. A Case of Epithelioma of Auricle and Meatus. (Id. 1870; I. 92.)
3. Five Cases of Fatal Otorrhœa. (Id. 1871; I. 195. Condensed in *Boston Med. and Surg. J.*, Nov. 1871; LXXXV. 346.)
4. Cases of Injury to the Ear from External Violence. (*Trans. Am. Otological Soc. 1872; I. 308.*)
5. Chapters on External and Middle Ears and Eustachian Tube in Stricker's Manual of Histology. Translated by Dr. Green. New York, 1872.
6. Tenotomy of the Tensor Tympani Muscle. (*Trans. Am. Otological Soc. 1873; I. 401.*)
7. Ulceration of the Dermoid Layer of the Membrana Tympani. (Id. 1873; I. 431.)
8. Neuralgia in and about the Ear. (Id. 1874; I. 561.)
9. Cases illustrative of Mastoid Inflammation. (*Boston Med. and Surg. Jour. Jan. 1874; XC. 77.*)
10. Perforations of the Membrana Flaccida. Trans. of Boston Soc. for Medical Improvement. (Id. March, 1874; XC. 310.)
11. An Unusual Source of Otorrhœa. Trans. of Boston Soc. for Medical Observation. (Id. May, 1874; XC. 478.)
12. Vegetable Parasitic Growths. (*Trans. of Soc. of Medical Sciences, March 31, 1874.*)
13. Hyperostosis of the Mastoid. (*International Otological Soc. 1876.*)
14. Disease of the Brain in its Relation to Inflammations of the Ear. (*Med. and Surg. Reports of Boston City Hospital, 2d Ser. 101. Boston 1877.*)
15. Schwartze's Pathological Anatomy of the Ear. Translated by Dr. Green. Boston, 1878.
16. Coagulated Fibrin simulating Polypus of the Tympanum. (*Trans. Am. Otological Soc. 1878.*)
17. Objective and Subjective Systolic Murmurs in the Ears. (Id.)
18. The Audiphone and Dentaphone. (*Trans. of Soc. of Medical Sciences, Jan. 20, 1880.*)
19. Cases of Caries of the Mastoid. Trans. of Boston Soc. for Medical Improvement. (*Boston Med. and Surg. Journ. April, 1880; CII. 324.*)
20. The Importance of Early Recognition of Ear-Disease. (*Trans. Mass. Med. Soc. 1880.*)
21. Reports on the Progress of Otology. (*Boston Med. and Surg. Journ. 1872-1880; LXXXVII.-CIII.*)
22. Otitis Intermittens. (*Am. Journal of Otology, I. No. 2.*)
23. Phlebitis of Venæ Emissariæ Mastoideæ. (Id. I. No. 3.)

24. Phlebitis of the Mastoid Emissary Vein. (Id. II. No. 2.)

Francis Boott Greenough.

Lecturer on Syphilis, 1871-1875; Instructor in Syphilis, 1875- .

1. From 1871 to 1877, Dr. Greenough, as Secretary of the Boston Society for Medical Improvement, edited the Records of the Society in the *Boston Med. and Surg. Journal*, LXXXV.-XCIV.
2. Losterfer's Syphilitic Corpuscle. (*Boston Med. and Surg. Journal, Dec. 1872; LXXXVII. 405.*)
3. Review of Lee on Syphilis. (Id. Dec. 1875; XCIII. 676.)
4. Concerning the Execution of Criminals. (Id. Dec. 1875; XCIII. 777.)
5. Extracts from the Records of the Boston Society for Medical Improvement. [With C. D. Homan, M. D.] Vol. VI. Boston, 1876.
6. On the Treatment of the Chancroid. (*Boston Med. and Surg. Journal, Jan. 1877; XCVI. 96.*)
7. Notes on some of the most Frequent Forms of Skin Disease. (Id. Feb., March, April, June, 1877; XCVI. 213, 273, 425, 733.)
8. Dr. Bumstead's New Departure on the Chancroid. (Id. Feb. 1880; CII. 163.)
9. Extracts from the Records of the Boston Society for Medical Improvement. [With E. G. Cutler, M. D.] Vol. VII. Boston, 1880.
10. Herpes Progenitalis. Read at the Ann. Meeting of the American Dermatological Association, Aug. 28, 1881. (*Archives of Dermatology, June, 1881. Reprinted in pamphlet form.*)

James Bradstreet Greenough.

Tutor in Latin, 1865-1873; Assistant Professor of Latin, 1873- .

1. Analysis of the Latin Subjunctive. Cambridge, 1870. pp. 36.
2. The Subjunctive and Optative; read at the Oriental Society, and published in *North American Review*, Oct. 1871; CXIII. 415, as a review of Delbrück's "Conjunctiv und Optativ."
3. On Some Forms of Conditional Sentences in Latin, Greek, and Sanskrit. (*Trans. Am. Philol. Assoc. 1871, 159.*)
4. A Latin Grammar for Schools and Colleges, founded on Comparative Grammar. (With J. H. Allen.) Boston, 1872.
5. Select Orations of Cicero, chronologically arranged, covering the whole period of his Public Life. Edited by J. H. and W. F. Allen and J. B. Greenough. Boston, 1873. 80. [Fourth edition, Boston, 1878.]
6. New Latin Method. (With J. H. Allen.) [The first work to give directions and suggestions for reading at sight.] Boston, 1875.
7. A Latin Grammar. (With J. H. Allen.) Boston, 1877. [Another issue, Boston, 1878.]
8. Also a number of editions of Latin Text-Books for use in schools.

Hermann August Hagen.

Professor of Entomology, 1870—

1. Ueber die Microscope Nordamerikas. (*Max Schultze's Archiv f. microscop. Anatomie*, VI. 205.)
2. Synopsis Pseudoscorpionidum Synonymica. (*Proc. Boston Soc. Nat. Hist.* March, 1870; XIII. 263.)
3. Entwicklung der Buchdruckerei und des Buchhandels in Nord Amerika. (*Koenigsberger Hartungsche Zeitung*, 1870. No. 190.)
4. Ueber rationelle Benennung des Geaeders in den Fluegeln der Insecten. (*Stettiner Entom. Zeitung*, April and June, 1870; Jahrgang XXXI. 316.)
5. Necrolog von Benjamin D. Walsh. (Id. XXXI. 354.)
6. Die Public Library in Boston. (*Koenigsberger Hartungsche Zeitung*, 1870.)
7. Die Schuhmanufactur in Neu England. (Id.)
8. List of the Neuroptera in Alaska. (*Alaska and its Resources*. By W. H. Dall. 588. Boston, 1870. 80.)
9. On a new dissecting Microscope. (*Proc. Boston Soc. Nat. Hist.* 1871; XIV. 387.)
10. Bedeutung des Getreide Handels und des Getreidebaues in Nord Amerika. (*Koenigsberger Hartungsche Zeitung*, 1871.)
11. Die Baumwollen Industrie in Neu England. (Id.)
12. Der "Black Friday" der Neu Yorker Boerse. (Id.)
13. Notice on Dipterous Larvæ in a Child (*Æstrus ovis*). (*Proc. Boston S. N. H.*, March, 1872; XV. 155.)
14. Mimicry in the Colors of Insects. (*Am. Naturalist*, July, 1872; VI. 388; reprinted in *Entomol. Monthly Mag.*, IX. 78.)
15. The Blind Crayfish. (*Am. Naturalist*, Aug. 1872; VI. 494.)
16. On the Larvæ of the Hemerobina. (*Proc. Boston S. N. H.*, Oct. 1872; XV. 243.)
17. On the Eggs of Perthostoma. (Id. Nov. 1872; XV. 254.)
18. Schmetterlinge mit Raupenkopf und aehnlichen Missbildungen. (*Stett. Entom. Zeit.* 1872; XXXIII. 388.)
19. Ueber die Eisenbahnen in Nord Amerika, und ihren Einfluss auf den Arbeitspreis. (*Koenigsberger Hartungsche Zeitung*, 1872.)
20. Report on the Pseudoneuroptera and Neuroptera of N. America in the Collection of the late Th. W. Harris. [Monograph of Pteronarcys.] (*Proc. Boston S. N. H.*, Jan. 1873; XV. 263.)
21. Odonata from the Yellowstone. (*Sixth Ann. Report U. S. Geol. Survey of Territories*. By F. V. Hayden. 727. Washington, 1873.)
22. Notes on Mr. S. H. Scudder's Odonata of the Isles of Pines and White Mts. (*Proc. Boston S. N. H.*, March, 1873; XV. 373.)
23. On Prosopistoma, and Baetisca. (Id. 377.) Sub-family Phryganidae. (Id. April, 1873, 384.)
24. Die Larven von Ascalaphus. (*Stett. Entom. Zeit.* 1873; XXXIV. 33.)
25. Ueber die Entomologischen Arbeiten Hans Ström's. (Id. 225.)
26. Die Larven von Myrmeleon. (Id. 249, 377.)
27. Beitrage zur Kenntniss der Phryganiden. (*Verhandlung Zool. Bot. Gesell. Wien.* 1873; XXXIII. 377.)
28. Notes on Ephemerae. (*Trans. Entom. Soc.* London, 1873, 381.)
29. The Origin of the "Tailed Man." (*Proc. Boston Soc. Nat. Hist.*, Dec. 1873; XVI. 192.)
30. On Amber in North America. (Id. Feb. 1874; XVI. 296.)
31. The Odonate Fauna of Georgia, from Original Drawings now in possession of Dr. John L. LeConte and in the British Museum. (Id. March, 1874; XVI. 349.)
32. The Linnean Signification of the generic term Papilio. (*Canad. Entomol.*, 1874; VI. 163.)
33. Report on the Neuroptera and Pseudoneuroptera collected by Lient. W. L. Carpenter in 1873 in Colorado. (*Ann. Rep. U. S. Geol. and Geog. Survey of Territories*, 1875, 571.)
34. Development of Natural History Museums. (*Proc. Boston Soc. Nat. Hist.*, Feb. 1875; XVII. 387.)
35. Synopsis of the Odonata of America. (Id. May, 1875; XVIII. 211.)
36. On Attacus (Samia) Columbia and its Parasites. (*Bulletin of the Buffalo Soc. Nat. Sciences*, II. 201. Buffalo, 1875.)
37. Doryphora decemlineata, Say. (*Annal. Soc. Ent. Belgique*, XVIII. xxx.)
38. Lettre sur les Collections d'Entomologie Biologique du Musée de Cambridge. (Id. XVIII. 42.)
39. Sur la Poche des Femelles chez le Genre Euryalus. (Id. XVIII. 55.)
40. Capture of rare Pseudoneuroptera and Neuroptera. (*Psyche*, July, 1875; I. 96.)
41. Report upon the Collection of Neuroptera and Pseudoneuroptera made in portions of Colorado, New Mexico, and Arizona during the years 1872, 1873, and 1874. (*Rep. upon U. S. Geog. and Geol. Explorations and Surveys West of the One Hundredth Meridian*. By Geo. L. Wheeler. Vol. V. Zoölogy. Chap. XIV. 909. Washington, 1875.)
42. The History of the Origin and Development of Museums. [Read before the Boston Soc. Nat. Hist. Feb. 3, 1875.] (*Am. Naturalist*, Feb. and March, 1876; X. 80, 135.)
43. The Probable Danger from White Ants. (Id. July, 1876; X. 401.)
44. Pseudoneuroptera (of Kerguelen Island. Rhyopsocus). (*Contributions to the Nat. Hist. of Kerg. Island*, 52. By J. H. Kidder. Washington, 1876.)
45. On Genera. [Read before the Entom. Club of Am. Assoc. for Advancement of Science at Buffalo, Aug. 22, 1876.] (*Buffalo Courier*, Aug. 23, 1876. Reprinted in *Canadian Entomologist*, VIII. 193, and in *Rep. Entom. Soc. of Ontario for 1876*.)
46. List of Neuroptera [coll. by Capt. Jones' Expedition to North-Western Wyoming in 1873]. (*Proc. of Davenport Academy of Nat. Sciences*, I. 191. 1876.)

47. Neuroptera and Pseudoneuroptera collected in Utah in the Summer of 1875. (Id. I. 204. 1876.)
48. The Librarian's Work. (*Nation*, Jan. 18, 1877, No. 603; XXIV. 40.)
49. Note on Termes. (*Proc. Boston Soc. Nat. Hist.* Jan. 1877; XIX. 73.)
50. Extent of the N. American Faunal Region Southwards. (*Psyche*, May and June, 1877; II. 42.)
51. Attachment of Pollinia to Insects. (Id. II. 42.)
52. Symphrasis; eine neue Mantispiden Gattung. (*Stett. Entom. Zeit.* XXXVIII. 208.)
53. Beitrage zur Kenntniss von Pteronarcys. (Id. 477.)
54. Lead-boring Insects. (*Field and Forest*, Oct. 1877, 55. Washington.)
55. On Samia Gloveri. (*Canad. Entomol.* IX. 13.)
56. The Sparrows. [Written at the request of the late Thomas M. Brewer, who directed its publication in different papers to the extent of 300, 000 copies.] (*Boston Evening Transcript*, March 28, 1878. *American Cultivator*, April 6, 1878. *Worcester Evening Gazette*, April 30, 1878. *American Agriculturist* [English and German edit.], May, 1878. *Report upon Cotton Insects*, by J. H. Comstock, 1879, 150.)
57. Rectifications concernant l'Epitheca yamaskanensis, Provench. (*Annales Soc. Entom. Belgique*, XXI. 86.)
58. Insects imported from Europe. (*Psyche*, Sept.-Dec. 1878; II. 191.)
59. Additions et Corrections aux Néuroptères de la Province de Quebec. (*Le Naturaliste Canad.* X. 124.)
60. Descriptions of New Species and Additions [Gomphidae]. (De Selys Longchamps: *Quatrième Addition au Synopsis des Gomphides*. Bruxelles, 1878.)
61. Description of New Species and Additions [Cordulidae]. (De Selys Longchamps: *Seconde Addition au Synopsis des Cordulides*. Bruxelles, 1878.)
62. On the Natural History of Gall-Insects. (*Canad. Entom.* X. 85.)
63. On Mermis, a Parasite of the larva of *Carpocapsa pomonella*. (Id. 155.)
64. On the new Carpet-Bug. (Id. 161.)
65. The Carpet-Pest. (*Boston Daily Advertiser*, July 6, 1878.)
66. The Carpet-Bug. (*Boston Sunday Globe*, July 7, 1878.)
67. Troublesome Insects. The Carpet-B Beetle and other House and Domestic Pests. (Pulex.) [Read before Thursday Club.] (*Boston Daily Advertiser*, Dec. 19, 1878. *Worcester Evening Gazette*, Dec. 1878.)
68. Museum Pests observed in Cambridge. (*Proc. Boston Soc. Nat. Hist.*, 1878; XX. 56. Reprinted in *Journal of Science*, June, 1879; X. 90. Abstract in *Nature*, May, 1879; XX. 106.)
69. Larvae of Insects discharged through the Urethra [with the literature of similar cases in full]. (*Proc. Boston Soc. Nat. Hist.*, Nov. 1878; XX. 107.)
70. Birds swarming after White Ants [in Cambridge]. (Id. 118.)
71. Remarks on White Ants. (*Proc. Boston Soc. Nat. Hist.*, XX. 121.)
72. Flies from a Petroleum Lake. (Id. Jan. 1879; 134.)
73. Attacks of Native Insects upon Imported Trees. (*Psyche*, Feb. 1879; II. 210.)
74. Obnoxious Pests. [Destruction by Application of Yeast. Read before the Thursday Club, April 3.] (*Boston Evening Transcript*, April 11, 1879. Reprinted in *Worcester Evening Gazette*, April; in *Canad. Entom.* XI. 110; abstract in *Nature*, Dec. 1879; XXI. 188; in *Nation*, Dec. 11, 1879, No. 754; XXIX. 402; translation in *Stett. Entom. Zeit.* XL. 369; XLI. 355.)
75. Insect Pests in Libraries. [Read before Am. Library Assoc.] (*Boston Morning Journal*, July 3, 1879.)
76. The Yellow-Fever Fly. (*Boston Daily Advertiser*, July 21, 1879.)
77. Hoehlen-Chelifer in Nord Amerika. (*Zoolog. Anzeiger*, II. 399. Leipzig, 1879.)
78. The Typical Collections of Diptera in the Museum in Cambridge. (*Canad. Entomol.* XI. 132.)
79. Gerhard's systematisches Verzeichniss der Amerikanischen Schmetterlinge. (*Stett. Entom. Zeit.* XL. 475.)
80. Insect Pests in Libraries; with the addition of the literature. (*Library Journal*, 1879; IV. 251, 373.)
81. Jahresbericht ueber die Arbeiten ueber Pseudoneuropteren und Neuropteren. (*Zool. Jahresbericht*, 1879, 562. Leipzig, 1880.)
82. A New Species of Simulium, with remarks about the Nympha Case. (*Proc. Boston Soc. Nat. Hist.*, 1880; XX. 305.)
83. Notes upon Parasites in the Flesh of a Mallard Duck. (*Forest and Stream*, March, 1880. *N. Y. Weekly Tribune*, April, 1879.)
84. Beitrag zur Kenntniss des Tracheensystems der Libellen-Larven. (*Zool. Anzeiger*, April, 1880; III. 156.)
85. Schaedliche Insecten durch den Hefenpilz zu toedten. (Id. April, 1880; III. 185.)
86. The Destruction of Insect Pests by Application of Yeast. (*Nature*, London, April, 1880; XXI. 611.)
87. Kiemeneberreste bei einer Libelle; glatte Muskelfasern bei Insecten. (*Zool. Anzeiger*, June, 1880; III. 304.)
88. The Yellow-Fever Fly. (*Psyche*, Sept. 1880; III. 111.)
89. On an Aquatic Sphinx Larva. (Id. 113.)
90. On the Destruction of Obnoxious Insects by Yeast. (*Canad. Entomol.* XII. 81.)
91. Cordyceps Ravenelii on the larvae of Phyllophaga. (Id. 89.)
92. The exceedingly numerous Appearance of a Phryganea. (Id. 108.)
93. A New Enemy of the Black Spruce [*Abies nigra*]. (Id. 121.)
94. A Mystery in reference to Pronuba Yucasella. (Id. 128.)
95. The Hessian Fly not imported from Europe. [Read before the entomological section of the Am. Assoc. for Advancement of Science.] (Id. 197.)
96. Destruction of Obnoxious Insects — Phylloxera, Potato-beetle, Cottonworm, Colorado Grass-

- hopper, and Greenhouse Pests—by Application of Yeast Fungus. Cambridge, 1880. pp. 11. (Reprinted in full or in part in a large number of home and foreign papers, such as: *Bayerische Industrie- und Gewerbeblatt*, 1880, 212; *St. Petersburger deutsche Zeit.* Feb. 7 (19); *New York Weekly Tribune*, Feb. 4, 1880; *Salt Lake Semi-Weekly Herald*, Dec. 17, 1880; *Compt. Rend.* Paris, Feb. 9, 1880; *Koenigsberger Hartungsche Zeit.*, Jan. 1881; *Schriften Oecon. Phys. Gesell.* Koenigsberg, 1880; *Bulletin Soc. Entom. Ital.*, 1880.)
97. Ueber die Bestimmung der von Linné beschriebenen Arten der Gattung Phryganea. (*Stett. Entomol. Zeit.* XLI. 97.)
98. Neue Neuroptera in Die Insecten von Vitus Graber. (Id. 106.)
99. R. M'Lachlan's Monographic Revision and Synopsis of Trichoptera of Europe. (Id. 118.)
100. The probable Parthenogenesis of Ceratomyia destructor. (*North American Entomol.* No. 9, I. 65.)
101. On Chthonius Packardii. (*Am. Entomol.* III. 83.)
- *** See also the Memoirs and Reports of the Museum of Comparative Zoölogy.

Charles Edward Hamlin.

Instructor in Geography and Geology, 1875-1877;
Assistant in Conchology and Palaeontology, 1877 - .

*** See the Reports of the Museum of Comparative Zoölogy.

Nathaniel Ware Hawes.

Assistant Professor of Operative Dentistry, 1870-1879.

1. The Reflex Influence of the Abnormal Condition of the Female Pelvic Organs on the Teeth, and the Reflex Influence of Diseased Teeth on other organs and systems. (*Gynecological Journal*, 1870.)
2. The Six Year Old Molars. (*Dental Cosmos*, 1875.)
3. The Treatment of Exposed Pulp of Teeth. (*Trans. New York Odontological Soc.*)

Frederic Henry Hedge.

Professor of Ecclesiastical History, 1857-1876; *Professor of German*, 1872-1881.

1. German Prepositions. Cambridge, 1874. pp. 26.
2. Ways of the Spirit and other Essays. Boston, 1877. 80.
3. Various essays in periodicals.

Adams Sherman Hill.

Assistant Professor of Rhetoric, 1872-1876; *Boylston Professor of Rhetoric and Oratory*, 1876 - .

1. Causes of the Commune. (*North American Review*, Jan. 1873; CXVI. 90.)
2. General Rules for Punctuation and for the Use of Capital Letters. Cambridge, 1874. pp. 12.

*** Successive issues of this tract have been revised and enlarged; the eleventh thousand, bearing date 1880, consists of 44 pages. It is also included in the Appendix of No. 5.

3. Forster's Life of Jonathan Swift. (*North American Review*, July, 1876; CXXIII. 170.)

4. Salter's Life of James W. Grimes. (Id. July, 1876; CXXIII. 186.)
 5. The Principles of Rhetoric and their Application. New York, 1878.
- *** This has appeared in several successive editions.
6. An Answer to the Cry for More English. (*Good Company* [Springfield, Mass.], 1879; IV. No. 3, 233.)

George Anthony Hill.

Tutor in Physics, 1865-1871; *Assistant Professor of Physics*, 1871-1876.

1. Questions and Exercises on Stewart's Elementary Physics. Boston, 1874. 120.
- *** See also the University Publications.

Henry Barker Hill.

Assistant in Chemistry, 1870-1874; *Assistant Professor of Chemistry*, 1874 - .

1. Determinations of the Percentage of Carbonic Acid in Air. In "Air and Some of its Impurities," by George Derby, M.D. (*Second Ann. Rep. Mass. State Bd. of Health*, 404. Boston, 1871.)
2. The Adulterations and Impurities of Food. (*Third Ann. Report Mass. State Bd. of Health*, 132. Boston, 1872.)
3. The Adulterations and Impurities of Food. (*Fourth Ann. Rep. Mass. State Bd. of Health*, 389. Boston, 1873.)
4. Lecture Notes on Qualitative Analysis. [New York, 1874.]
5. Ueber die Aether der Harnsäure, I. (*Berichte der deutschen chemischen Gesellschaft*, March, 1876; IX. 370.)
6. Ueber die Aether der Harnsäure, II. (Id. July, 1876; IX. 1090.)
7. On the Ethers of Uric Acid. (*Proc. Am. Acad. of Arts and Sciences*, 1876; XII. 26.)
8. On the Ethers of Uric Acid. (*Am. Journal of Science and Arts*, Dec. 1876; 3d Ser. XII. 428.)
9. Ueber einige Produkte der Distillation des Holzes bei niedriger Temperatur. (*Berichte der deutsch. chem. Gesellschaft*, May, 1877; X. 936.)
10. Ueber die Mucobromsäure, I. With O. R. Jackson. (Id. Feb. 1878; XI. 289.)
11. Ueber das Pyroxanthin. (Id. March, 1878; XI. 456.)
12. Ueber die Dimethylharnsäure. With C. F. Mabery. (Id. July, 1878; XI. 1329.)
13. Zur Harnsäureformel. (Id. Sept. 1878; XI. 1670.)
14. Ueber die Mucobromsäure, II. With O. R. Jackson. (Id. Sept. 1878; XI. 1671.)
15. Ueber die Dichloracrylsäure aus Mucochlorsäure. With W. Z. Bennett. (Id. April, 1879; XII. 655.)
16. Zur Geschichte der disubstituirten Acrylsäuren. (Id. April, 1879; XII. 658.)
17. Ueber die Mucobromsäure, III. (Id. April, 1880; XIII. 734.)
18. Ueber die Oxydationsprodukte der Dimethylharnsäure. With C. F. Mabery. (Id. XIII. 739.)

19. On the Ethers of Uric Acid, II. Dimethyluric Acid. With C. F. Mabery. (*Proc. Am. Acad. of Arts and Sciences*, April, 1880; XV. 256.)
20. On the Ethers of Uric Acid, Dimethyluric Acid, II. With C. F. Mabery. (*Am. Chemical Journal*, II. 305.)
21. Contributions from the Chemical Laboratory of Harvard College: Furfural, one of the Products of the Dry Distillation of Wood; Pyroxanthin; Mucobromic Acid; Mucochloric Acid; Substituted Acrylic Acids from Brompropionic Acid; Theoretical Considerations. (*Proc. Am. Acad. of Arts and Sciences*, 1880; XVI. 155.)

William Barker Hills.

Instructor in Chemistry, 1874-

1. Reports on "Recent Progress in Medical Chemistry." (*Boston Med. and Surg. Journal*, C. 293; CI. 267, 304; CII. 127; CIII. 106.)

Thomas Barnes Hitchcock.

Professor of Dental Pathology and Therapeutics, 1868-1874.

1. Pathology of the Teeth. By Dr. Carl Wedl. Edited and annotated by Dr. Hitchcock. Philadelphia, 1872.
2. Reports on Dental Histology and Microscopy. (*Trans. Odontological Soc.*, 1873.)
3. Essay upon "Dental Education."
4. The Physical Properties of Dental Amalgams. (*Trans. New York Odontological Soc.*, Dec. 1874. 26. Phila. 1875.)

Harry Blake Hodges.

Instructor in Chemistry and German, 1875-

1. A Course in Scientific German. Boston, 1877. 120.

Nathaniel Dana Carlile Hodges.

Assistant in Physics, 1877-

1. A Method of determining the Dip. (*Am. Journal of Science and Arts*, Feb. 1879; 3d Ser. XVII. 145.)
2. On the Size of Molecules. (*Philosophical Magazine*, July, 1879; 5th Ser. VIII. 74. Also in *Am. Journal of Science and Arts*, Aug. 1879; 3d Ser. XVIII. 135.)
3. On the Mean Free Path of a Molecule. (*Philosophical Magazine*, March, 1880; 5th Ser. IX. 177. Also in *Am. Journal of Science and Arts*, March, 1880; 3d Ser. XIX. 222.)

Nathaniel Holmes.

Royall Professor of Law, 1868-1872.

1. The Authorship of Shakespeare. 3d edition. With an Appendix of Additional Matters, including a Notice of the recently discovered Northumberland MSS. New York, 1875. 80.

Oliver Wendell Holmes.

Parkman Professor of Anatomy and Physiology, 1847-

1. Rip Van Winkle, M.D.; an After-Dinner Prescription Taken by the Mass. Med. Soc., at their Meeting held May 25, 1870. (*Boston Med. and Surg. Journal*, June, 1870; LXXXII. 444.)
2. Mechanism in Thought and Morals. An Address delivered before the Phi Beta Kappa Society of Harvard University. Boston, 1871. 160.
3. Valedictory Address to the Students of the Bellevue Hospital College. New York, 1871.
4. The Poet at the Breakfast-Table. Boston, 1872.
5. The Claims of Dentistry; an Address delivered at the Commencement of the Dental School of Harvard University. (*Boston Med. and Surg. Journal*, Feb. 1872; LXXXVI. 133. Also printed separately, Boston, 1872.)
6. Songs of Many Seasons. Boston, 1874.
7. Professor Jeffries Wyman. A Memorial Outline. (*Atlantic Monthly*, Nov. 1874; XXXIV. 611.)
8. Physiology of Versification. (*Boston Med. and Surg. Journal*, Jan. 1875; XCII. 6.)
9. Tribute to the late Dr. Charles G. Putnam. (Id. Feb. 1875; XCII. 163.)
10. Crime and Automatism. With a Notice of M. Prosper Despine's Psychologie Naturelle. (*Atlantic Monthly*, April, 1875; XXXV. 466.)
11. Poetical Works. [With many new Poems.] Boston, 1877.
12. An Address delivered at the Annual Meeting of the Boston Microscopical Society. (*Boston Med. and Surg. Journal*, May, 1877; XCVI. 601.)
13. Where to Go in Summer. [Graveyard Statistics.] (Id. Nov. 1877; XCVII. 513.)
14. Correction of an Anatomical Error in Darwin's "Descent of Man." (Id. Jan. 1878; XCVIII. 59.)
15. Visions: A Study of False Sight. (Pseudopia.) By Edward H. Clarke. With an Introduction and Memorial Sketch by Oliver Wendell Holmes. Boston, 1878. 80.
16. The School Boy. Poem read at the Centenary of Phillips Academy, Andover, Mass., June 10, 1878. Boston, 1878. 80.
17. John Lothrop Motley. A Memoir. Boston, [1878] 1879. 80. (Abstract of this in *Proc. Mass. Hist. Soc.*, 1878; XVI. 404.)
18. Address at the Dedication of the Boston Medical Library. (*Boston Med. and Surg. Journal*, Dec. 1878; XCIX. 745.)
19. Tribute to the late Prof. John Barnard Swett Jackson. (Id. Jan. 1879; C. 63.)
20. Memoir of Dr. Jacob Bigelow. (*Proc. Am. Acad. of Arts and Sciences*, May, 1879; XIV. 333.)
21. Jonathan Edwards. (*International Review*, July, 1880; IX. 1.)

Oliver Wendell Holmes, Jr.

Instructor in the Constitution of the United States, 1870-1871; *University Lecturer on Jurisprudence*, 1871-1872.

1. Articles, Book Notices, and Editorials while Editor of the American Law Review from 1870 to 1873; V., VI., VII.

2. Kent's Commentaries on American Law. 12th Ed. Edited and revised by O. W. Holmes, Jr. Boston, 1873. 4 vols. 8°.

William Dean Howells.

University Lecturer on Recent Italian Literature, 1869-1871.

1. Some Arcadian Shepherds. (*Atlantic Monthly*, Jan. 1872; XXIX. 84.)
2. The Florentine Satirist, Giusti. (*North American Review*, July, 1872; CXV. 31.)
3. Niccolini's Anti-Papal Tragedy. (Id. Oct. 1872; CXV. 333.)

Charles Loring Jackson.

Assistant in Chemistry, 1868-1871; Assistant Professor of Chemistry, 1871-.

1. Einige neue organische Selenverbindungen. (*Berichte der deutschen chemischen Gesellschaft*, Sept. 1874; VII. 1277. Berlin.)
2. Methyl- und Benzylmonoselenid. (Id. Feb. 1875; VIII. 109.)
3. Ueber Benzylselenocyanat. (Id. March, 1875; VIII. 321.)
4. Ueber eine neue Base aus dem Nachlauf des Anilins. (Id. July, 1875; VIII. 968.)
5. (With A. Oppenheim.) Zwei Derivate des Quecksilbermercaptids. (Id. Sept. 1875; VIII. 1032.)
6. Ueber die Einwirkung wasserziehender Mittel auf Acetanilid. (Id. 1170.)
7. Die Derivate des Tribrombenzols aus Tribromanilin. (Id. 1172.)
8. Einige Methyl- und Benzylselenverbindungen. (*Annalen der Chemie*, Nov. 1875; CLXXIX. 1. Translated in *Am. Journal of Science and Arts*, Aug. 1875; 3d Ser. X. 139.)
9. (With W. Lowery.) Ueber substituirte Benzylverbindungen. (*Ber. der deutsch. chem. Gesell.*, Jan. 1876; VIII. 1672.)
10. Vergleich der Ersetzbarkeit des Broms in den drei Brombenzylbromiden. (Id. June, 1876; IX. 931.)
11. Notiz ueber die Base $C_{13}H_{13}N$ aus dem Nachlauf des Anilins. (Id. May, 1877; X. 960.)
12. On a Base derived from a Waste-product in the Aniline Manufacture. (*Am. Journal of Science and Arts*, June, 1877; 3d Ser. XIII. 449. [Translation of Nos. 4 and 11.]
13. Certain substituted Benzylbromides. (*Proc. Am. Acad. of Arts and Sciences*, XII. 209. Reprinted in *American Journal of Chemistry*, I. 93.)
14. (With W. Lowery.) Parabrombenzyl Compounds. (*Proc. Am. Acad. of Arts and Sciences*, XII. 221. Abstract in *Ber. der deutsch. chem. Gesell.*, July, 1877; X. 1209.)
15. (With C. F. Mabery.) On Paraiodobenzyl Compounds. May, 1877. (*Proc. Am. Acad. of Arts and Sciences*, XIII. 202. Reprinted [with additions] in *American Journal of Chemistry*, II. 250. Abstract in *Ber. der deutsch. chem. Gesell.*, Jan. 1878; XI. 55.)
16. Review of Menschutkin's paper on Etherification. (*Am. Journal of Science and Arts*, March, 1878; 3d Ser. XV. 213.)

17. (With J. Fleming White.) Substituirt Benzaldehyde. (*Ber. der deutsch. chem. Gesell.*, May, 1878; XI. 1042.)
18. Review of Van 't Hoff's *Chimie dans l'Espace*. (*Am. Journal of Science and Arts*, July, 1878; 3d Ser. XVI. 66.)
19. Lecture Notes in Chemistry I. [Two Editions.] 1878.
20. (With A. W. Field.) Parachlorbenzyl Compounds. (*Proc. Am. Acad. of Arts and Sciences*, XIV. 54. Reprinted in *Am. Journal of Chemistry*, II. Abstract in *Ber. der deutsch. chem. Gesell.*, May, 1878; XI. 904.)
21. (With J. F. White.) Parachlorbenzyl Compounds. (*Proc. Am. Acad. of Arts and Sciences*, XIV. 306. Reprinted in *Am. Journal of Chemistry*, II. 158. Abstract in *Ber. der deutsch. chem. Gesell.*, June, 1880; XIII. 1217.)
22. (With J. F. White.) Synthese des Anthracens. (*Ber. der deutsch. chem. Gesell.*, Oct. 1879; XII. 1965.)
23. Ersetzbarkeit des Broms in den Monobrombenzylbromiden. (Id. Dec. 1879; XII. 2243.)
24. (With A. W. Field.) The Action of Bromine on Toluol and some of its Derivatives. June, 1878. (*Proc. Am. Acad. of Arts and Sciences*, XV. 202. Reprinted in *Am. Journal of Chemistry*, II. 1. Abstract in *Ber. der deutsch. chem. Gesell.*, June, 1880; XIII. 1215.)
25. (With J. F. White.) Orthobrombenzyl Compounds. (*Proc. Am. Acad. of Arts and Sciences*, XV. 213. Abstract in *Ber. der deutsch. chem. Gesell.*, June, 1880; XIII. 1218.)
26. (With J. F. White.) Substituted Benzaldehydes. April, 1880. (*Proc. Am. Acad. of Arts and Sciences*, XV. 267.)

John Barnard Swett Jackson.

Shattuck Professor of Morbid Anatomy, 1847-1879, and Curator of the Anatomical Museum.

1. A Descriptive Catalogue of the Warren Anatomical Museum. Boston, 1870. 8°.
2. Discharge of Gall-Stones at the Umbilicus, with Dissection. (*Boston Med. and Surg. Journal*, Dec. 1870; LXXXIII. 412.)
3. Typhoid Fever. (Id. Aug. 1872; LXXXVII. 93, 125.)
4. (With Henry Tuck.) Rare Form of Monstrosity; Case of Acephalus. (Id. April, 1876; XCIV. 439.)
5. Rhinencephalus and some Allied Forms of Monstrosity. (Id. Jan. 1878; XCVIII. 66.)
6. Fractured Patella. (Id. May, 1878; XCVIII. 572.)
7. Specimens in the Army Medical Museum. (Id. Oct. 1878; XCIX. 594.)

William James.

Instructor in Anatomy and Physiology, 1872-1876; Assistant Professor of Physiology, 1876-.

1. Remarks on Spencer's Definition of Mind as Correspondence. (*Journal of Speculative Philosophy*, Jan. 1878; XII. 1.)

2. Quelques Considérations sur la Méthode Subjective. (*La Critique Philosophique*, 24 Janvier, 1878; Sixième Année, II. 407.)
3. Brute and Human Intellect. (*Journ. of Spec. Philos.*, July, 1878; XII. 236.)
4. Are We Automata? (*Mind*, Jan. 1879; IV. 1.)
5. The Spatial Quale. (*Journ. of Spec. Philos.*, Jan. 1879; XIII. 64.)
6. The Sentiment of Rationality. (*Mind*, July, 1879; IV. 317.)
7. The Association of Ideas. (*Popular Science Monthly*, March, 1880; XVI. 577.)
8. The Feeling of Effort. (*Anniversary Memoirs of Boston Soc. of Nat. Hist.*, Boston, 1880.)

Benjamin Joy Jeffries.

University Lecturer on Optical Phenomena and the Eye, 1869-1871.

1. The Eye in Health and Disease. Boston, 1871.
2. Dangers from Color-Blindness in Railroad Employés and Pilots. (*Ninth Ann. Rep. Mass. State Bd. of Health*, 97. Boston, 1878. Also printed separately, pp. 40, Boston, 1878.)
3. Color-Blindness, its Dangers and its Detection. Boston, 1879.

Frederick Irving Knight.

Lecturer on Laryngoscopy, 1870-1871; *Instructor in Auscultation, Percussion, and Laryngoscopy*, 1872-1873; *Instructor in Laryngoscopy*, 1879-.

1. Reports on Diseases of the Throat. (*Boston Med. and Surg. Journal*, 1872-1880; LXXXVII. 353, 374; LXXXVIII. 492, 518; LXXXIX. 505, 530; XCII. 380, 410; XCIV. 387, 418; XCVII. 387, 416; XCIX. 183, 211; CI. 192, 230; CIII. 131, 154.)
2. Clinical Lecture on Diseases of the Throat. (Id. March and April, 1873; LXXXVIII. 238, 343.)
3. Methods of Removing Growths from the Larynx. (Id. Sept. 1873; LXXXIX. 301.)
4. A Case of Complete Paralysis of one recurrent Laryngeal Nerve, and Partial Paralysis of the other, with marked Diminution in Sensation in the Larynx. (*Archives of Elec. and Neurol.*, I. 4. New York)
5. Reports on Diseases of the Chest. (*Boston Med. and Surg. Journal*, 1874-1880; XC. 499, 524; XCI. 323; XCIII. 417, 437; XCV. 409, 436; XCVIII. 205, 237; C. 325, 359; CII. 152, 171.)
6. Action of the Soft Palate in Speaking and Swallowing. (Id. July, 1874; XCI. 80.)
7. A Remarkable Complication of so-called Catarrhal Pneumonia. (Id. May, 1875; XCII. 549.)
8. Laryngoscopic Clinic at the Mass. General Hospital. (Id. Sept. 1875; XCIII. 314.)
9. Case of Anosmia following a Blow on the Occiput. (Id. Sept. 1877; XCVII. 293.)
10. Foreign Body imbedded in the Base of the Tongue. (Id. Jan. 1878; XCVIII. 109.)
11. Aneurism of the Aorta. (Id. May, 1878; XCVIII. 605.)
12. Lymphosarcoma of the Neck involving the Lung. (Id. Oct. 1878; XCIX. 498.)

13. Retro-pharyngeal Sarcoma. (*St. Louis Med. and Surg. Journal*, XXXVII. 266.)
14. Abscess of the Liver, opening into the Lung, with Recovery. (*Boston Med. and Surg. Journal*, Nov. 1879; CI. 698.)
15. The Dangers of Thoracentesis and Injections into the Pleural Cavity. (Id. Aug. 1880; CII. 397.)
16. Chorea of the Hyo-Thyroid Muscles. (*Archives of Laryngology*, I. 154. New York, 1880.)
17. Acute Idiopathic Inflammation of the Normal Thyroid Gland. (Id. I. 155.)

* * * Dr. Knight has been Associate Editor of the *Archives of Laryngology* from its foundation in 1880.

Christopher Columbus Langdell.

Dane Professor of Law, 1870-.

1. A Selection of Cases on the Law of Contracts, with References and Citations. Boston, 1871. 8°.
2. Sales of Personal Property, with References and Citations. Boston, 1872. 8°.
3. A Summary of Equity Pleading. Cambridge, 1877. 8°.
4. Cases in Equity Pleading, selected with special reference to the subject of Discovery. Cambridge, 1878. [Printed, not published.]
5. A Selection of Cases on the Law of Contracts, with a Summary of the topics covered by the cases. Second ed. Parts I. and II. Boston, 1877. 8°.
6. A Summary of the Law of Contracts. Second ed. Boston, 1880. 12°. [This is the Summary mentioned in No. 5, published separately.]

John Lathrop.

Lecturer on Shipping and Admiralty, 1871-1872; *Lecturer on Torts*, 1873-1874.

1. Massachusetts Reports. CXV. March-Sept. 1874. Boston, 1875. 8°.

James Laurence Laughlin.

Instructor in Political Economy, 1878-.

1. Roscher's Political Economy. (*Literary World* [Boston], March, 1879; X. 99.)
2. Jules Simon on the Government of M. Thiers. (Id. May, 1879; X. 147.)
3. Adams' Life of Gallatin. (Id. Aug. 1879; X. 270.)
4. Protection and Socialism. (*International Review*, Oct. 1879; VII. 427.)
5. Seyd on Bi-Metallism. (*Literary World*, March, 1880; XI. 89.)
6. Thé New Edition of the Lex Salica. (Id. Aug. 1880; XI. 271.)
7. Blanqui's History of Political Economy. (Id. Nov. 1880; XI. 407.)

* * * Mr. Laughlin has also written other notices and reviews in various journals.

Henry Cabot Lodge.

Instructor in History, 1876-1879.

1. Alexander Hamilton. (*North American Review*, July, 1876; CXXIII. 113.)
2. (In conjunction with Prof. Henry Adams.) Von Holst's History of the United States. Vol. I. (Id. Oct. 1876; CXXIII. 328.)
3. Life and Letters of George Cabot. Boston, 1877. 80.
4. Timothy Pickering. (*Atlantic Monthly*, June, 1878; XLI. 739.)
5. The Last of the Puritans. [Sewall Diary, Vol. I.] (*Magazine of American History*, Nov. 1878; II. 641.)
6. Editorship of *International Review*, with J. T. Morse, Jr., since March, 1879.
7. Life of Caleb Strong. (*Proc. Mass. Hist. Soc.*, 1791-1835; I. 290. Also printed separately, pp. 29. Cambridge, 1879.)
8. A Short History of the English Colonies in America. New York, 1881. 80.

* * * Mr. Lodge has also written a large number of critical notices and some political articles for the *Nation*, *Atlantic Monthly*, *Literary World*, *North American Review*, *International Review*, *Law Review*, etc.

* * * See also the Bulletin of the Library.

Joseph Lovering.

Hollis Professor of Mathematics and Natural Philosophy, 1838- .

1. Editorship of *Proceedings of American Association for Advancement of Science*, Vols. XVIII. 1-311 (1870); XIX. 1-387 (1871); XX. 1-447 (1872); XXI. 1-295 (1873).
2. On Methods of illustrating Optical Meteorology. (*Proc. Am. Assoc. for Advancement of Science*, XIX. 64. Cambridge, 1871.)
3. Notice of John F. W. Herschel. Communicated June, 1872. (*Proc. Am. Acad. of Arts and Sciences*, VIII. 461.)
4. On the Determination of Transatlantic Longitudes by Means of the Telegraphic Cables. Jan. 1873. (*Memoirs of Am. Acad. of Arts and Sciences*. New Series, IX. 437.)
5. Editorship of *Proceedings of American Academy of Arts and Sciences*, VIII. 1-680 (1873).
6. Notice of Christopher Hansteen. May, 1873. (Id. IX. 282.)
7. Editorship of *Memoirs of Amer. Acad. of Arts and Sciences*; New Series, IX. 1-436 (1873).
8. On Sympathetic Vibrations. (*Proc. Am. Assoc. for Advancement of Science*, XXI. 59. Cambridge, 1873.)
9. Notice of Auguste A. de la Rive. May, 1874. (*Proc. Am. Acad. of Arts and Sciences*, IX. 356.)
10. Addresses at the Portland Meeting. (*Proc. Am. Assoc. for Advancement of Science*, XXII. 417. Salem, 1874.)
11. Address as Retiring President. (Id. XXIII. 1. Salem, 1875. Reprinted in *Am. Journal of Science and Arts*, Oct. 1874; 3d Ser. VIII. 297. Also in *Popular Science Monthly*, Dec. 1874, Jan. 1875; VI. 197, 308. Also in *Phil-*

osophical Magazine [London], Jan. 1875; 4th Ser. XLVIII. 493.)

12. On a New Way of Illustrating the Vibrations of the Air in Organ Pipes. (*Proc. Am. Assoc. for Advancement of Science*, XXIII. 113. Salem, 1875.)
13. Notice of James Walker. May, 1875. (*Proc. Am. Acad. of Arts and Sciences*, X. 485.)
14. Notice of Joseph Winlock. May, 1876. (Id. XI. 339.)
15. On a New Method of measuring the Velocity of Electricity. (*Proc. Am. Assoc. for Advancement of Science*, XXIV. 35. Salem, 1876.)
16. Notice of Alexis Caswell. May, 1877. (*Proc. Am. Acad. of Arts and Sciences*, XII. 307.)
17. Notice of John H. Temple. May, 1878. (Id. XIII. 449.)
18. Notice of Joseph Henry. May, 1879. (Id. XIV. 356.)
19. Notice of Heinrich W. Dove. May, 1880. (Id. XV. 383.)

James Russell Lowell.

Smith Professor of the French and Spanish Languages and Literatures, and Professor of Belles Lettres, 1855- .

1. Among My Books. Boston, 1870. 160.
2. The Cathedral. (*Atlantic Monthly*, Jan. 1870; XXV. 1; *Poetical Works*, 393. Boston, 1877. Also printed separately, Boston, 1870. 160.)
3. A Virginian in New England Thirty-Five Years Ago. (*Atlantic Monthly*, Aug., Sept., Oct., Dec. 1870, June, 1871; XXVI. 1, 62, 333, 482, 739; XXVII. 673.)
4. My Study Windows. Boston, 1871. 120.
5. Pope. (*North American Review*, Jan. 1871; CXII. 178. Also in *My Study Windows*, 385.)
6. Goodwin's Plutarch's Morals. (*North Am. Rev.*, April, 1871; CXII. 460.)
7. Masson's Life of Milton. (Id. Jan. 1872; CXIV. 204.)
8. The Shadow of Dante. (Id. July, 1872; CXV. 139. Also, under title "Dante," in *Among My Books*, 2d Series.)
9. Agassiz. (*Atlantic Monthly*, May, 1874; XXXIII. 586.)
10. Spenser. (*North Am. Rev.*, April, 1875; CXX. 334.)
11. Sonnet to F. A. (*Atlantic Monthly*, 1875; XXXV. 560.)
12. Ode read at the Concord Centennial. (Id. 1875; XXXV. 730. Also printed in *Proc. at Centennial Celebration of Concord Fight*, April 19, 1875, 82. Also in *Three Memorial Poems*.)
13. Sonnets from Over Sea. (*Atlantic Monthly*, July, 1875; XXXVI. 37.)
14. Under the Great Elm. Poem read at Cambridge on the Hundredth Anniversary of Washington's Taking Command of the American Army. (*Atlantic Monthly*, Aug. 1875; XXXVI. 221. Also in *Cambridge in the Centennial*, 27. Cambridge, 1875. Also in *Three Memorial Poems*.)
15. An Ode for the Fourth of July, 1876. (*Atlantic Monthly*, Dec. 1876; XXXVIII. 740. Also in *Three Memorial Poems*.)

16. Among My Books. 2d Series. Boston, 1876. 12°.
17. Poetical Works. Boston, 1877. 8°.
18. Three Memorial Poems. Boston, 1877. [The three Centennial Poems.]
- ** Various minor articles in prose and verse.

Theodore Lyman.

Assistant in Zoölogy, 1860-

1. Papers relating to the Garrison Mob. 1870. 8°.
2. Note sur les Ophiurides et Euryales du Musée d'Histoire Naturelle de Paris. (*Annales des Sciences Naturelles: Zoologie, 5^e Sér. XVI.* Paris, 1872. Also printed separately.)
3. Mode of Forking among Astrophytons. (*Proc. Boston Soc. Nat. Hist.* March, 1877; XIX. 102.)
4. The Annual Reports of the Commissioners on Inland Fisheries of Massachusetts from 1865 to 1880 have been wholly or in part written by Mr. Lyman.

** See also the Publications of the Museum of Comparative Zoölogy.

George Augustus Maack.

Assistant in Palæontology, 1869-1874.

** See the Reports of the Museum of Comparative Zoölogy.

Charles Frederic Mabery.

Assistant in Chemistry, 1876-

** See Henry E. Hill and Charles L. Jackson.

John McCrady.

Assistant in Zoölogy, 1872-1874; Professor of Zoölogy, 1874-1877.

** See the Reports of the Museum of Comparative Zoölogy.

Edward Laurens Mark.

Instructor in Zoölogy, 1877-

1. The Nervous System of Phylloxera. (*Psyche*, Jan. 1879; II. 201.)
2. On Early Stages in the Embryology of *Limax campestris*. (*Zoologischer Anzeiger*, Sept. 1879; II. 493. Leipzig, 1879.)

Charles Sedgwick Minot.

Lecturer on Embryology, 1880-

1. Human Growth. (*Boston Med. and Surg. Journal*, July, 1880; CIII. 79.)
2. On the Conditions to be filled by a Theory of Life. (*Proc. Am. Assoc. for Advancement of Science*, Aug. 1879; XXVIII. 411. Salem, 1880.)

Francis Minot.

Assistant Professor of the Theory and Practice of Medicine, and Clinical Lecturer on the Diseases of Women and Children, 1871-1874; Hersey Professor of the Theory and Practice of Physic, 1874-

1. Fatal Hæmatemesis from Cirrhosis of the Liver. (*Boston Med. and Surg. Journal*, April, 1872; LXXXVI. 213.)
2. Does the Inhalation of Ether promote Post-Partum Hæmorrhage? (Id. April, 1876; XCIV. 469.)
3. Hints in Ethics and Hygiene. Annual Address before the Mass. Med. Society, June 12, 1878. (*Med. Communications of Mass. Med. Soc.* XII. 137. Abstract in *Boston Med. and Surg. Journal*, June, 1878; XCVIII. 755.)
4. Case of supposed Acute Tuberculosis resembling Typhoid Fever. (*Boston Med. and Surg. Journal*, April, 1879; C. 567.)
5. Rapid Pulse and High Temperature as Symptoms of Puerperal Inflammation. (Id. Feb. 1880; CII. 177.)
6. Cases of Acute Pneumonia. (Id. Sept. 1880; CIII. 228.)

George Tufton Moffatt.

Professor of Operative Dentistry, 1868-1879.

1. Dental Eclecticism. (*Trans. New York Odontological Soc.*, Dec. 1874, 153. Phila., 1875.)
2. A History of Dental and Oral Science in America. 1876.

Charles Herbert Moore.

Instructor in Drawing and Principles of Design, 1871-

1. Catalogue, with Notes, of Studies, and Fac-Similes from Examples of the Works of Florence and Venice; and of Fac-Similes and Original Studies to be used as Exercises in Drawing, belonging to the Fine Arts Department of Harvard University. Cambridge, 1878.
2. Various newspaper and magazine articles.

Edward Sylvester Morse.

University Lecturer on Brachiopoda, 1872-1873.

1. On the Oviducts and Embryology of Terebratulina. (*Am. Journal of Science and Arts*, Oct. 1872; 3d Ser. IV. 262.)
2. On the Systematic Position of the Brachiopoda. (*Proc. Boston Soc. Nat. Hist.*, March, 1873; XV. 315.)

Charles Edward Munroe.

Assistant in Chemistry, 1871-1874.

1. On the Estimation of Phosphoric Acid. (*Am. Journal of Science and Arts*, May, 1871; 3d Ser. I. 1. Also printed separately.)

2. On the Use of Porous Cones in Filtration. (Id. .)
3. The Action of Vegetable Acids on Tin. (*Report of Am. Public Health Assoc.*, 1879.)

*** In Prof. Cooke's paper in *Proc. Am. Acad.*, IX. 40, Mr. Munroe prepared the analyses of Sterlingite and Hallite. In Mr. Hill's article on the Adulterations and Impurities of Food (*Mass. State Bd. of Health Reports for 1872 and 1873*) he furnished the determinations of lead and sulphuric acid in vinegars, and that of lead in colored confectionery. In the *Official Report of the Mass. State Board of Health*, in the case of Tyler *et al.* vs. Squire *et al.*, he furnished testimony as a chemist.

Simon Newcomb.

Lecturer on Political Economy, 1879-1880.

1. The Standard of Value. (*North American Review*, Sept. 1879; CXXIX. 223.)
2. Our Political Dangers. (Id. March, 1880; CXXX. 261.)
3. The Organization of Labor. I. The Organizer as a Producer. (*Princeton Review*, May, 1880.)
4. The Principles of Taxation. (*North Am. Review*, Aug. 1880; CXXXI. 142.)
5. The Organization of Labor. II. The Interest of the Laborer in Production. (*Princeton Review*, Sept. 1880.)

Charles Eliot Norton.

Professor of the History of Art, 1875- .

1. Philosophical Discussions. By Chauncey Wright. With a Biographical Sketch of the Author by C. E. Norton. New York, 1877. 80.
2. Historical Studies of Church-Building in the Middle Ages: Venice, Siena, Florence. New York, 1880. 80.

*** See also the Bulletin of the Library.

Joseph Pearson Oliver.

Clinical Lecturer on the Diseases of Children, 1875- .

1. On the Treatment of Chronic Diarrhoea in Young Children. (*Boston Med. and Surg. Journal*, July, 1875; XCIII. 32.)
2. Clinical Lecture on Chronic Gastroduodenal Catarrh in Children. (Id. March, 1879; C. 345.)

John Knowles Paine.

Instructor in Music, 1862-1873; *Assistant Professor of Music*, 1873-1875; *Professor of Music*, 1875- .

1. St. Peter; An Oratorio. Boston [1872]. 80.
2. Centennial Hymn. For Chorus and Orchestra. 1876.
3. Symphonie: Im Frühling. (No. 2 in A.) Für Grosses Orchester. Boston, 1880. 40.
4. Four Characteristic Pieces. For Piano-Forte.
5. In the Country: 12 Pieces for Piano-Forte.
6. Four Songs.
7. Concert Variations in the Austrian Hymn for the Organ.

Andrew Preston Peabody.

Preacher to the University and Plummer Professor of Christian Morals, 1860-1881.

1. The Sovereignty of Law. (*Boston Lectures*, 1870: *Christianity and Scepticism*, 181. Boston [1870].)
2. Manners. An Address delivered before the Abbot Academy, Andover, and elsewhere. Boston and Cambridge, 1870.
3. Progress in Christ, not beyond Christ. A Sermon at the Installation of A. J. Rich, at Brookfield. Springfield, 1870. pp. 38.
4. The Bible in Public Schools. A Lecture before the American Institute of Instruction. 1871. 120.
5. The Relations of Ethics and Theology. An Address before the Literary Society of Beloit College. 1871. Also in *Christianity and Modern Thought*, [published by Am. Unit. Assoc.] 207. Boston, 1872.
6. The Study of Words. A Lecture before the State Educational Convention, Madison, Wisconsin. 1871.
7. Memoir of Rev. Charles Burroughs, D.D. (*Proc. New Hampshire Hist. Soc.* Also printed separately, Cambridge, 1871. 160. pp. 39.)
8. Memoir of Alvan Lamson. (*Proc. Mass. Hist. Soc. for 1869-1870*, 258. Boston, 1871.)
9. Memoir of Elbridge Jefferson Cutler. Cambridge, 1872. pp. 33.
10. The Rights and Dangers of Property. A Sermon delivered at the Annual Election, Jan. 3, 1872. Boston, 1872.
11. Union in Diversity. Sermon before the Convention of Congregational Ministers, May 30, 1872. Boston, 1872.
12. The Testimony of the Apostles. (*Boston Lectures*, 1872.)
13. Classical Culture and Phillips Exeter Academy. Address at the Dedication of the new Academy Building. Cambridge, 1872.
14. Manual of Moral Philosophy. New York and Chicago. 1873. 160.
15. The Gospel in Bible Lands. (*New Englander*, April, 1873; XXXII. 243.)
16. The Scientific Education of Mechanics and Artizans. Address at the Commencement of the Worcester Free Institute of Industrial Science. Washington, 1873.
17. Christianity and Science. A Series of Lectures delivered in New York in 1874, on the Ely Foundation of the Union Theological Seminary. New York, 1874. 120.
18. Fires in American Cities. (*International Review*, Jan. 1874; I. 17.)
19. Lessons for Our Times from the Life of Washington. Address before the Boston Young Men's Christian Union. Boston, 1874.
20. The Elective System in Colleges. A paper read before the National Educational Association, Detroit, Aug. 1874. Worcester, 1874.
21. Memoir of Mrs. Sarah Farrar. (*Lee's Memoir of Timothy Farrar*, 23. Boston, 1875.)
22. Christian Belief and Life. Boston, 1875. 120.
23. Judge Farrar's Manual of the Constitution of the United States. (*New Englander*, July, 1875; XXXIV. 498.)

24. Oration on the One Hundredth Anniversary of Washington's Taking Command of the Continental Army. 1875.
25. A Century of the Common Schools of New England. An Address delivered at the Annual Convention of Teachers. Boston, 1876.
26. "Established in the Faith." Sermon at the Ordination of Rev. Pitt Dillingham at Charlestown. 1876.
27. The Three Eras of the Positive Philosophy. Oration before the Adelpic Union of Williams College, July 2, 1877. Boston, 1877.
28. Sermon in Commemoration of the Founders of Nahant Church. Cambridge, 1877.
29. The Relation of Morality to Religion. (*International Review*, March, 1878; V. 230.)
30. Science and Revelation. (*Princeton Review*, May, 1878, 760.)
31. Memoir of Emory Washburn. (*Proc. Mass. Hist. Soc.* 1879-1880; XVII. 23. Boston, 1879.)
32. Memoir of Nathan Dane. (Id. 1835-1855; 6.)
33. Discourse on the Being and Attributes of God. One of Seven Discourses at the Unitarian Church in Washington. 1879.
34. The Unpardonable Sin. Tract of the American Unitarian Assoc. 1879.
35. The Divine Humanity of Christ. Sermon at the Installation of Rev. C. A. Allen at Brunswick, Me. 1879.
36. The Voting of Women in School Elections. A Paper read before the Social Science Association. 1879.
37. The Religious Aspects of the Logic of Chance and Probability. (*Princeton Review*, March, 1880, 303.)
38. Christianity the Absolute Religion. A Sermon before the Convention of Congregational Ministers. 1880.
39. Baccalaureate Sermons, one each year, 1871-1880.

** Many other articles, sermons, etc.

Francis Parkman.

Professor of Horticulture, 1871-1872.

** See the Bulletin of the Bussey Institution.

Benjamin Peirce.

Perkins Professor of Astronomy and Mathematics, 1842-1880.

1. Linear Associative Algebra. [Lithographed.] Washington, 1870, pp. 153. 4°.
2. Observation of the Solar Eclipse of Dec. 22, 1870, at Catania. (*Am. Journ. Science and Arts*, 1871; 3d Ser. I. 155.)
3. On the Mean Motions of the Four Outer Planets. (Id. Jan. 1872; 3d Ser. III. 67.)
4. Reports of the Superintendent of the U. S. Coast Survey, showing the Progress of the Survey for the years 1870-73 inclusive. Washington, 1873-75. 4°. Also various appendices.
5. Ocean Lanes for Steamships. Read May 12, 1874. (*Proc. Am. Acad. of Arts and Sciences*, IX. 228.)

6. On the Uses and Transformations of Linear Algebra. Presented May 11, 1875. (Id. X. 395.)
7. Probabilities at the Three-ball Game of Billiards. Read Oct. 10, 1877. (Id. XIII. 141.)
8. On Peirce's Criterion for the Rejection of Doubtful Observations. Dec. 1877. (Id. XIII. 348.)
9. "Qualitative Algebra." (*Johnson's New Universal Cyclopaedia*, III. 1487. New York, 1877.)
10. Propositions in Cosmical Physics. Oct. 8, 1879. (*Proc. Am. Acad.* XV. 201.)
11. The Intellectual Organization of Harvard University. (*Harvard Register*, April, 1880; I. 77.)
12. Various Questions in the *Mathematical Visitor*. Erie, Pa.

Benjamin Osgood Peirce.

Assistant in the Physical Laboratory, 1876-1877.

1. On a New Method of comparing the Electromotive Forces of Two Batteries and measuring their Internal Resistance. Presented March 14, 1877. (*Proc. Am. Acad. of Arts and Sciences*, XII. 137.)
2. On a New Method of measuring the Resistance of a Galvanic Battery. March 14, 1877. (Id. XII. 140.)
3. Note on the Determination of the Law of Propagation of Heat in the Interior of a Solid Body. April 11, 1877. (Id. XII. 143.)
4. (With E. B. Lefavour.) Preliminary Work on the Determination of the Law of Propagation of Heat in the Interior of Solid Bodies. Oct. 10, 1877. (Id. XIII. 128.)
5. Ueber die Emissionsspectra der Haloïdverbindungen des Quecksilbers. (*Annalen der Physik und Chemie*, 1879. Neue Folge, VI. Also in pamphlet.)
6. Ueber die Electromotorischen Kräfte von Gaselementen. Leipzig, 1879. pp. 24.

Charles Sanders Peirce.

** See the Annals of the Astronomical Observatory.

James Mills Peirce.

University Professor of Mathematics, 1869-

1. Three and Four Place Tables of Logarithmic and Trigonometric Functions. Boston, 1871. 4°. pp. 16.
2. The Elements of Logarithms; with an Explanation of the Three and Four Place Tables of Logarithmic and Trigonometric Functions. Boston, 1873. 12°.
3. "Quaternions." (*Johnson's New Universal Cyclopaedia*, III. 1491. New York, 1877.)
4. Mathematical Tables, chiefly to Four Figures. First Series. Boston, 1879. 8°. pp. 45.
5. Review of Byerly's Differential Calculus. (*Harvard Register*, Feb. 1880; I. 45.)
5. Review of Rice's Differential Calculus. (Id. May, 1880; I. 103.)

** See also the Bulletin of the Library.

Charles Callahan Perkins.

University Lecturer on the History of the Fine Arts, 1869-1875.

1. American Art Museums. Boston, 1870. 80. pp. 10.
2. Art in Education. Reprinted from the Second Volume of the Journal of the American Social Science Association. New York, 1870. pp. 6.
3. Raphael and Michelangelo: a Critical and Biographical Essay. Boston, 1878. 80.

John Bulkley Perry.

University Lecturer on Geology, 1869-1872.

1. A Discussion of Sundry Objections to Geology. (*Congregational Quarterly*, April, 1870; XII. 217. Also printed separately, Cambridge, 1870. 80.)
2. On the Glacial Period in New England. (*Proc. Boston Soc. Nat. Hist.*, Dec. 1870; XIV. 62.)
3. [Remarks on the] Objections made by Dr. Jackson [to the Glacier Theory]. (Id. Dec. 1870; XIV. 68.)
4. The Eozoon Limestones of Eastern Massachusetts. (Id. April, 1871; XIV. 199.)
5. Hints towards the Post-Tertiary History of New England from Personal Study of the Rocks, with Strictures on Dana's History of the New Haven Region. (Id. Feb. 1872; XV. 48.)
6. Lyell's Student's Elements of Geology. (*Bibliotheca Sacra*, July, 1872; XXIX. 479. Also printed separately, Andover, 1872.)

*** See also the Reports of the Museum of Comparative Zoölogy.

Thomas Sergeant Perry.

Tutor in Modern Languages, 1868-1872; Instructor in English, 1877-1880.

1. American Novels. (*North American Review*. Oct. 1872; CXV. 366.)
2. Mr. Edward Fitzgerald's Translations. (*Atlantic Monthly*, June, 1877; XXXIX. 730.)
3. German Influence on English Literature. (*Atlantic Monthly*, Aug. 1877; XL. 129.)
4. Ouida's Novels. (*Lippincott's Magazine*, Dec. 1877; XX. 732.)
5. Doudan. (*Atlantic Monthly*, June, 1878; XLI. 681.)
6. Some French Novels. (Id. Sept. 1878; XLII. 296.)
7. Alfred de Musset. (*N. Am. Rev.*, Sept.-Oct. 1878; CXXVII. 288.)
8. Recent French and German Essays. (*Atlantic Monthly*, Aug. 1879; XLIV. 230.)
9. Recent Criticism of Byron. (*International Review*, Sept. 1879; VII. 282.)
10. Mountains in Literature. (*Atlantic Monthly*, Sept. 1879; XLIV. 302.)
11. Zola's Last Novel. (Id. May, 1880; XLV. 693.)
12. Sir Walter Scott. (Id. Sept. 1880; XLVI. 313.)

William Henry Pettee.

Instructor in Mining, 1869-1871; Assistant Professor of Mining, 1871-1875.

1. Contributions to Barometric Hypsometry: with Tables for Use in California. [Cambridge] 1874. 40. pp. 88. (*Geol. Survey of California*.)

*** See the University Publications.

Edward Charles Pickering.

Director of the Observatory, Phillips Professor of Astronomy, and Professor of Geodesy, 1876- .

1. Annual Address of the President of the Appalachian Club. (*Appalachia*, March, 1877; I. 63.)
2. Mt. Liberty. (Id. March, 1877; I. 122.)
3. The Micrometer Level. (Id. June, 1877; I. 138.)
4. Address of the Vice-President, Section A. (*Proc. Am. Assoc. for Advancement of Science*, Aug. 1877; XXVI. 63. Salem, 1878.)
5. Observations of the Satellites of Mars, and Miscellaneous Observations of Double Stars. [L. Waldo, observer.] (*Astronomische Nachrichten*, XCII. 87, 94. Kiel, 1878. 40.)
6. Observations of Minor Planets. [W. Upton and W. A. Rogers, observers.] (Id. XCIII. 171. Kiel, 1878. 40.)
7. The Cosine Galvanometer. (*Nature*, Jan. 1879; XIX. 217.)
8. Stellar Magnitudes. (*Astronomische Nachrichten*, XCV. 29. *Nature*, May, 1879; XX. 14. *Astronomical Register*, XVII. 175.)
9. Observations of Comet c 1879. [O. C. Wendell, observer.] (*Astron. Nachrichten*, XCVI. 21.)
10. Observations of the Satellites of Mars. [E. C. Pickering, O. C. Wendell, A. Searle, and F. Waldo, observers.] (Id. XCVII. 115, 145.)
11. Light of Webb's Planetary Nebula. (*Nature*, Feb. 1880; XXI. 346.)
12. Dimensions of the Fixed Stars, with especial reference to Binaries and Variables of the Algol Type. (*Proc. Am. Acad. of Arts and Sciences*, June, 1880; XVI. 1.)
13. Two New Planetary Nebulæ. (*Nature*, Aug. 1880; XXII. 327.)
14. Novel Celestial Object. (Id. Sept. 1880; XXII. 483.)

*** See also the publications of the Astronomical Observatory.

Charles Burnham Porter.

Demonstrator in Anatomy and Instructor in Surgery, 1869-1880.

1. (With Dr. W. L. Richardson.) Two Cases of Congenital Dislocation of the Knee Joint. (*Boston Med. and Surg. Journal*, Sept. 1875; XCIII. 321.)
2. Cases of Plastic Surgery. (Id. April, 1878; XCVIII. 423.)
3. Diffused Popliteal Aneurism. Syme's Operation. Secondary Hæmorrhage. Ligation of Femoral Artery. Tetanus. Recovery. Operations by

- C. B. Porter, Surgeon Mass. General Hospital. Subsequent Cure and Report by Asst. Surgeon S. Q. Robinson. (*American Journal of Medical Sciences*, LXXII. 128.)
4. Clinical Reports Mass. General Hospital. Strangulated Hernia. Kelotomy and Operation for Radical Cure. Radical Cure of Varicocele. Division of Ulnar Nerve by Stab Wound. Cases of C. B. Porter. Reported by J. F. Bush, M.D. (*New York Medical Journal*, XXXIII. 366.)

Louis François de Pourtalès.

Assistant in Zoölogy, 1873-1880.

1. Der Boden des Golfstromes und der atlantischen Küste Nord-Amerika's. (Petermann's *Geographische Mittheilungen*, Nov. 1870; XVI. 393.)
 2. "Atlantic Ocean." (Appleton's *American Encyclopaedia*, II. New York, 1873-1876.)
 3. "Dredging (Deep-Sea)." (Id. VI.)
 4. "Galapagos." (Id. VII.)
 5. "Indian Ocean." (Id. IX.)
 6. "Juan Fernandez." (Id. IX.)
 7. "Magellan, Straits of." (Id. X.)
 8. "Mediterranean Sea." (Id. XI.)
 9. "Pacific Ocean." (Id. XII.)
 10. "Polar Seas (Geography)." (Id. XIII.)
 11. Corals at the Galapagos Islands. (*Am. Journal of Science and Arts*, Oct. 1875; 3d Ser. X. 282.)
- * * See also the Publications of the Museum of Comparative Zoölogy.

Raphael Pumpelly.

Professor of Mining, 1866-1875.

1. The Paragenesis and Derivation of Copper and its Associates on Lake Superior. (*Am. Journal of Science and Arts*, Sept. 1871; 3d Ser. II. 188, 243, 347.)
2. (With T. B. Brooks.) On the Age of the Copper-bearing Rocks of Lake Superior. (Id. June, 1872; 3d Ser. III. 428.)
3. (With T. B. Brooks and C. Rominger.) Geological Survey of Michigan. Upper Peninsula. New York, 1873. [Vol. I. Pt. II. Chapters 1, 2, 3, 5, 6 by Raphael Pumpelly.]
4. (With T. B. Brooks and A. Schmidt.) Iron Ores of Missouri and Michigan. [Pt. I., Geology of Pilot Knob and its Vicinity, by R. Pumpelly.]
5. Geological Survey of Missouri. R. Pumpelly, Director. Preliminary Report on the Iron Ores and Coal Fields. New York, 1873. [Notes on the Geology of Pilot Knob and its Vicinity, by R. Pumpelly.]
6. On Pseudomorphs of Chlorite after Garnet at the Spurr Mountain Iron Mine, Lake Superior. (*Am. Journal of Science and Arts*, July, 1875; 3d Ser. X. 17.)
7. Lithology of the Keweenaw System. (*Chamberlin's Geology of Wisconsin Survey of 1873-1879*; III. 27.)

Frederick Ward Putnam.

Curator of the Peabody Museum of American Archaeology and Ethnology, 1874-

1. Notes on Myxinidae. (*Proc. Boston Society Natural History*, 1874; XVI. 127.)

2. Notes on Ophidiidae and Fierasferidae, with Descriptions of New Species from America and the Mediterranean. (Id. 1874; XVI. 339.)
3. Remarks on the Family Nemophidae. (Id. 1874; XVI. 366.)
4. Description of Living Specimens of Fishes and Cray Fishes from Mammoth Cave. (Id. Dec. 1874; XVII. 222.)
5. Account of Rare and Interesting Fishes from the Waters of Essex County, Mass. (*Bulletin Essex Inst.*, Jan. 1874; VI. 11.)
6. Indian Remains from Essex County, Mass. (Id. Feb. 1874; VI. 17.)
7. Description of a Blackfish, *Globiocephalus*, shot in Salem Harbor. (Id. Feb. 1874; VI. 22.)
8. Remarks on the Mammoth Cave and some of its Animals. (*Bulletin Essex Institute*, Dec. 1874; VI. 191.)
9. *Gobiosoma Molestum* from the Ohio River. (*American Naturalist*, 1874; VIII. 233.)
10. (With S. Garman.) On the Male and Female Organs of the Sharks and Skates, with special reference to the use of the "Claspers." (*Proc. Am. Assoc. for Advancement of Science*, Aug. 1874; XXIII. B. 143, Salem, 1875.)
11. On the Anderson School of Natural History at Penikese. (Id. 144. Salem, 1875.)
12. Description of a Collection of Pottery and other Objects from Mounds near New Madrid, Missouri. Illustrated. (*Eighth Report, Peabody Museum*, 1875. p. 16.)
13. Archaeological Researches in Kentucky and Indiana. (*Proc. Boston Soc. Nat. Hist.* Jan. 1875; XVII. 314.)
14. Archaeological Researches in Kentucky. (*Bulletin Essex Institute*, Jan. 1875; VII. 2.)
15. Notice of Jeffries Wyman. (*Proc. Am. Acad. of Arts and Sciences*, May, 1875; X. 496.)
16. On Some of the Habits of the Blind Crawfish, *Cambarus pellucidus*, and the Reproduction of Lost Parts. (*Proc. Boston Soc. Nat. Hist.* May, 1875; XVIII. 16.)
17. On some Curious Groups of Stones found near Newburyport. (*Bulletin Essex Institute*, July, 1875; VII. 106.)
18. Petition to the Legislature of Massachusetts for a Scientific Survey of the Commonwealth. (*Mass. House Documents* [1875]. No. 184, p. 5.)
19. On the Ancient Peruvians. (*Bulletin Essex Inst.* March, April, May, 1876; VIII. 34.)
20. The Development of the Ceramic Art and Ornamentation among the American Nations. (Id. April, May, June, 1877; IX. 77.)
21. Notice of an Interesting Relic of Mexican Sculpture. (Id. April, May, June, 1877; IX. 69.)
22. Ancient American Pottery; A Criticism of the Chapter in Mr. Prime's Work on Pottery and Porcelain. (*The Nation*, Jan. 3, 1878.)
23. Archaeological Explorations in Tennessee. Illustrated. (*Eleventh Report, Peabody Museum*, 1878, 361. — Reprinted in *Supplement Scientific American*, 1878, and in *Kansas City Review of Science and Industry*, June - Sept. 1879.)
24. Archaeological Explorations in Tennessee. With illustrations. (*Bulletin Essex Institute*, April, May, June, 1878; X. 72.)

25. On the Discovery of Chambered Mounds in Missouri. (*Proc. Bos. Soc. Nat. Hist.*, Oct. 1879; XX. 304.)
26. On a Skeleton of an Indian from Massachusetts. (Id. Nov. 1879; XX. 331.)
27. Ancient Mounds and Burial Places, Cumberland Valley, Tennessee. (Id. Nov. 1879; XX. 332.)
28. Conventionalism in Pottery. (Id. Dec. 1879; XX. 333.)
29. Reports upon Archæological and Ethnological Collections from vicinity of Santa Barbara, California, and from ruined Pueblos of Arizona and New Mexico, and Certain Interior Tribes. (*Report upon U. S. Geographical and Geological Surveys West of the One Hundredth Meridian*, VII. Archæology, 1879.)
30. "Egyptian Antiquities" found in America. Illustrated. (*American Art Review*, April, 1880; I. 254.)
31. Account of Cahokia Mound. Illustrated. (*Twelfth Report, Peabody Museum*, 1880, 470.)
32. The Indians of California. (*Bulletin Essex Institute*, Jan. — June, 1880; XII. 4.)
33. Editorship of *Proceedings of American Association for Advancement of Science*, XXII.—XXVIII. 1873—1879.
34. Editorship of *Annual Reports of Trustees of Peabody Museum of Archæology and Ethnology*, VIII.—XIII. 1875—1880.
35. Editorship (with others) of *American Naturalist*, I.—VIII. 1868—1874.

*** See also the Reports of the Peabody Museum and the Bulletin and Reports of the Museum of Comparative Zoölogy. Such of Mr. Putnam's official papers as have been reprinted are repeated above; also a few, embraced in his general reports are here repeated with definite titles.

James Jackson Putnam.

Instructor in Diseases of the Nervous System, 1875—.

1. Case of Circumscribed Analgesia of the Arm after Typhoid Fever. (*Chicago Journal of Nervous and Mental Disease*, July, 1875; II. 385.)
2. Case of Menière's Disease. (*Boston Med. and Surg. Journal*, Nov. 1875; XCIII. 554.)
3. Experimental Criticism of a Recent Theory of Phosphorus Poisoning. (Id. March, 1876; XCIV. 296.)
4. Physical Exercise for the Sick. (Id. Sept. 1876; XCV. 371.)
5. Ziemssen's Cyclopædia of Medicine. American Edition. The following articles were contributed, by Dr. Putnam. 1876. Anæmia, Hyperæmia, Thrombosis, Embolism, and Hæmorrhage of the Brain.
6. Case of Section of the Median and Ulnar Nerves. (*Boston Med. and Surg. Journal*, March, 1877; XCVI. 333.)
7. Modification of Barwell's Elastic Muscle Apparatus. (Id. May, 1878; XCVIII. 701.)
8. Case of Cutaneous Disease, confined to the Palmar Surface of the Thumb, successfully treated by Section of the Filaments of Median Nerve. (*Chicago Journal of Nervous and Mental Disease*, July, 1878; V. 465.)

9. (With O. F. Wadsworth, M.D.) Intra-Ocular Circulation: Rhythmical Changes in the Venous Pulse of the Optic Disk. (Id. Oct. 1878; V. 690.)
10. The Physiological Pathology of the Hydrophobic Paroxysm. (*Boston Med. and Surg. Journal*, Nov. 1878; XCIX. 650.)
11. A Contribution to our Knowledge of the Cutaneous Distribution of the Brachial and Cervical Plexuses. (Id. Jan. 1879; C. 118.)
12. Description of a Modified Pendulum-Myograph. (*Journal of Physiology* [London], Sept. 1879; II. 206.)
13. On the Reliability of Marey's Tambour in Experiments requiring Accurate Notations of Time. (Id. Sept. 1879; II. 209.)
14. Two Cases of Chorea in the Kitten, with Autopsies. (*Bost. Med. and Surg. Journal*, Nov. 1879; CI. 690.)
15. Case of Chronic Facial Spasm, successfully treated by stretching the Seventh Nerve. (*Trans. of the American Neurological Assoc. in the Chicago Journal of Nervous and Mental Disease*, July, 1880; VII. 486. Published in extenso in *Archives of Medicine*, Feb. 1881.)
16. A Series of Cases of Paræsthesia mainly of the Hands, of Periodical Recurrence, and possibly of Vaso-motor Origin. (*New York Archives of Medicine*, 1880.)
17. Article on Vaso-motor and Tropic Neuroses. (*Ziemssen's Cyclopædia of Medicine*. Am. ed.)

John Phillips Reynolds.

Instructor in Obstetrics and Medical Jurisprudence, 1869—1877; *Professor of Obstetrics*, 1877—.

1. Dr. Uvedale West's Views of Rotation. (*Trans. Am. Gynecological Soc. II.*)

George Riddle.

Instructor in Elocution, 1878—.

1. Elocution at Harvard. (*Harvard Register*, Aug. 1880; II. 159.)

William Augustus Rogers.

Assistant in the Observatory, 1870—1877; *Assistant Professor of Astronomy*. 1877—.

1. Ephemeris of Felicitas for Opposition, 1873. (*Astronomische Nachrichten*, LXXXII. 157. Kiel, 1873.)
2. Elements of Felicitas (109). (Id. LXXXIV. 161. Kiel, 1874.)
3. On the Periodic Errors of the Right Ascension observed between 1858 and 1871. Read, April 14, 1874. (*Proc. Am. Acad. of Arts and Sciences*, IX. 127.)
4. New Elements of Brunhild (123), with Ephemeris for the Opposition, 1875. (*Astronomische Nachrichten*, LXXXV. 241. Kiel, 1875.)
5. Death of Professor Joseph Winlock, Director of Harvard College Observatory. (Id. LXXXVI. 113. Kiel, 1875.)

6. Places of Comparison Stars adopted from observations. (Id. LXXXVI. 173. Kiel, 1875.)
7. On a possible Explanation of the Method Employed by Nobert in Ruling his Test Plates. Presented June 9, 1875. (*Proc. Am. Acad. of Arts and Sciences*, XI. 237.)
8. Eight Ascensions of the Fundamental Stars observed with the Meridian Circle of Harvard College Observatory during the years 1872-73. (*Astronomische Nachrichten*, LXXXVII. 65. Kiel, 1876.)
9. New Elements and Ephemeris of (123) Brunhild. (Id. LXXXVIII. 223. Kiel, 1876.)
10. New Elements of Iphigenia (117) from the Opposition Observations of 1870, 1872, 1873, 1877. (Id. XCI. 107. Kiel, 1878.)
11. On Standard Measures of Length. (*Am. Quarterly Microscopical Journal*, Jan. 1879.)
12. On two Forms of Comparators for Measures of Length. (Id. April, 1879.)
13. On the Limits of Accuracy in Measurements with the Telescope and the Microscope. (*Proc. Am. Acad. of Arts and Sciences*, XIV. 168.)
14. On the First Results from a new Diffraction Ruling Engine. (*Am. Journal of Science and Arts*, Jan. 1880; 3d Ser. XIX. 54.)
15. On the Present State of the Question of Standards of Length. Presented April 14, 1880. (*Proc. Am. Acad. of Arts and Sciences*, XV. 273.)
16. On Tolles's Interior Illuminator for Opaque Objects. (*Journal of Royal Microscopical Society*, III. 754.)
17. The Co-efficient of Safety in Navigation. (Read before the Naval Institute at Annapolis, and printed in *Science*, II. 171.)

*** See also the Annals of the Astronomical Observatory.

Thomas Morgan Rotch.

Clinical Instructor in the Diseases of Children, 1878-.

1. Absence of Resonance in the Fifth Right Inter-costal Space diagnostic of Pericardial Effusion. (*Med. Communications Mass. Med. Soc.* XII. 235. Boston, 1878. Also *Boston Med. and Surg. Journal*, Sept. and Oct. 1878; XCIX. 389, 421.)
2. Reports of the Suffolk District Medical Society. T. M. Rotch Secretary. (*Boston Med. and Surg. Journal*, 1879-80.)

Orestes St. John.

Assistant in Paleontology, 1873-1874.

*** See the Reports of the Museum of Comparative Zoölogy.

Charles Sprague Sargent.

Director of the Arnold Arboretum, 1872- ; *Arnold Professor of Arboriculture*, 1879- .

1. A Few Suggestions on Tree Planting in Massachusetts. (*Twenty-third Ann. Report of Secretary of Mass. Board of Agriculture for 1875*, 250. Boston, 1876. Also, enlarged, published by

Mass. Society for Promoting Agriculture in their *Prizes for Arboriculture*, 7. Boston, 1876.)

2. Notes on Trees and Tree Planting. (*Twenty-Fifth Ann. Rep. of Sec. Mass. Bd. of Agriculture for 1877*, 267, Boston, 1878.)
3. The Forests of Central Nevada with some Remarks on those of the Adjacent Regions. (*Am. Journal of Science and Arts*, June, 1879; 3d Ser. XVII. 417. Translated in *Annales des Sciences Naturelles*, and *Nuova Revista Forestale*.)
4. A Catalogue of the Forest Trees of North America. (*Tenth Census of the U. S.* [Department of the Interior.] 1880.)

*** See also the Bulletin of the Bussey Institution and the Reports of the Arnold Arboretum.

Samuel Hubbard Scudder.

Assistant Librarian, 1879- .

1. The Fossil Insects collected in 1877 by Mr. G. M. Dawson in the Interior of British Columbia. (*Rep. Progr. Geol. Surv. Canada*, 1877-78. B. 175-185. Montreal, 1879. 8°.)
2. Palaeozoic Cockroaches; a complete Revision of the Species of both Worlds, with an Essay toward their Classification. (*Mem. Boston Soc. Nat. Hist.*, III. 23-134, pl. 2-6. Boston, 1879. 4°.)
3. The Probable Age of Haulover Beach at the head of Nantucket Harbor. (*Proc. Bost. Soc. Nat. Hist.*, Nov. 1879; XX. 329-330. 8°.)
4. A Brief Account of some of the Scientific Institutions of Boston and Vicinity; prepared by the Local Committee of the American Association for the Advancement of Science, for Distribution to Members of the Association at the Boston Meeting, Aug. 1880. Boston, 1880. pp. 27. 8°. [Edited by S. H. Scudder.]
5. Annual Address before the Entomological Club of the American Association for the Advancement of Science. (*Amer. Entom.*, VI. 207-210. New York, 1880. 8°. *Can. Entom.*, XII. 161-167. London [Ont.], 1880. 8°. *Nature*, Oct. 1880; XXII. 550-551. *Ann. Rep. Entom. Soc. Ont.*, 1880; 12-15. Toronto, 1881. 8°. *Proc. Amer. Assoc. Adv. Sc.*, XXIX. 605-611. Salem, 1881. 8°. Separate, 9 pp. Salem, 1881.)
6. The Devonian Insects of New Brunswick. (*Anniv. Mem. Bost. Soc. Nat. Hist.*, pp. 41. pl. 1. Boston, 1880. 4°. Extract in *Amer. Jour. Sc. and Arts*, Feb. 1881; 3d Ser. XXI. 111-117. 8°. *Ann. and Mag. Nat. Hist.*, 5th Ser. VII. 255-261. London, 1881. 8°. *Arch. Sc. Phys. Nat.*, March, 1881; 3d Ser. V. 291-293. Genève, 1881. 8°. *Naturforscher*, No. 15, 141-143.
7. Brief Notices: *Psyche*: — *Junonia coenia* in N. England, II. 276-277. The Manner in which *Oecanthus* lays her Eggs, III. 77. The Insect-Basin of Florissant, III. 77. Habits of *Retinia frustrana*, III. 77. *Canadian Entomologist*: — An Insect doing much Damage to the Pines on the Island of Nantucket, XI. 176. A Few Notes on N. American Acridii, XII. 75-76. *Nature*: — An Index to Zoölogical Genera, XX. 551.

*** See also the Publications of the Library and the Reports of the Museum of Comparative Zoölogy.

Arthur Searle.*Assistant in the Observatory, 1869-*

1. Outlines of Astronomy. Boston, 1874. [A second edition, with some alterations and additions, 1875.]
 2. Mars as a Neighbor. (*Atlantic Monthly*, Jan. 1878; XLI. 111.)
 3. Newcomb's Popular Astronomy. (*Literary World*, April, 1878; VIII. 190.)
 4. The Convent of the Capuchins. (*Popular Science Monthly*, March, 1880; XVI. 673.)
- * * See also the Annals of the Astronomical Observatory.

Edwin Pliny Seaver.*Assistant Professor of Mathematics, 1869-1874.*

1. Formulas of Trigonometry.

Nathaniel Southgate Shaler.*Professor of Palaeontology, 1869-*

1. Father Blumhardt's Prayerful Hotel. (*Atlantic Monthly*, Dec. 1870; XXVI. 712.)
2. The Effects of Pressure on Rocks. (*Proc. Boston Soc. Nat. Hist.*, Jan. 1872; XV. 2.)
3. Notes on the Origin of our Domestic Cat. (Id. April, 1872; XV. 159.)
4. On the Effects of the Upright Position in Man. (Id. June, 1872; XV. 188.)
5. Notes on the Right and Sperm Whales. (*Am. Naturalist*, Jan. 1873; VII. 1.)
6. The Summer's Journey of a Naturalist. Parts I, II, and III. (*Atlantic Monthly*, June, 1873; XXXI. 707; Aug. 1873; XXXII. 181; Sept. 1873; XXXII. 349.)
7. The Moon. (Id. Sept. 1874; XXXIV. 270.)
8. Martha's Vineyard. (Id. Dec. 1874; XXXIV. 732.)
9. Notes on some of the Phenomena of Elevation and Subsidence of the Continents. (*Proc. Boston Soc. Nat. Hist.*, Dec. 1874; XVII. 288.)
10. Kentucky Geological Survey, N. S. Shaler. Director from 1874 to 1880; Vols. I.-IV. New Series, Reports of Progress. V. and VI. published in part. Memoirs of Survey, I. and II., II. published in part. Bulletin of Survey, I. Of these all but Vol. III. are by the Director and his assistants; Vol. III. is by himself alone. A good part of the work done remains unpublished.
11. Some Considerations on the possible Means whereby a Warm Climate may be produced within the Arctic Circle. (*Proc. Boston Soc. Nat. Hist.*, Jan. 1875; XVII. 332.)
12. On the Antiquity of Caverns and Cavern Life in the Ohio Valley. (*Memoirs Boston Soc. Nat. Hist.*, Feb. 1875; II. 355.)
13. Note on some Points connected with Tidal Erosion. (*Proc. Boston Soc. Nat. Hist.*, March, 1875; XVII. 465.)

14. A State Survey for Massachusetts. (*Atlantic Monthly*, March, 1875; XXXV. 357.)
15. Note on the Geological Relations of Boston and Narragansett Bays. (*Proc. Boston Soc. Nat. Hist.*, April, 1875; XVII. 488.)
16. Propositions concerning the Motion of Continental Glaciers. (*Proc. Boston Soc. Nat. Hist.*, June, 1875; XVIII. 126.)
17. Notes on the Cause and Geological Value of Variation in Rainfall. (Id. Oct. 1875; XVIII. 176.)
18. North American Climate. (Id. 1875.)
19. A State Survey for Massachusetts. (*Am. Naturalist*, March, 1875; IX. 156.)
20. How to change the North American Climate. (*Atlantic Monthly*, 1877.)
21. Notes on the Age and the Structure of the several Mountain Axes in the Neighborhood of Cumberland Gap. (*Am. Naturalist*, July, 1877; XI. 385.)
22. On the Existence of the Alleghany Division of the Appalachian Range within the Hudson Valley. (Id. Oct. 1877; XI. 627.)
23. The Silver Question geologically considered. (*Atlantic Monthly*, May, 1878; XLI. 620.)
24. Reelfoot Lake. (Id. Aug. 1878; XLII. 216.)
25. Thoughts on the Nature of Intellectual Property and its Importance to the State. Boston, 1878.
26. Notes on certain Evidences of a Gradual Passage from Sedimentary to Volcanic Rocks shown in the Brighton District of Boston. (*Proc. Boston Soc. Nat. Hist.*, Jan. 1879; XX. 129.)
27. The Natural History of Politics. (*Atlantic Monthly*, March, 1879; XLIII. 302.)
28. Notes on the Submarine Coast Shelf or Hundred Fathom Detrital Fringe. (*Proc. Boston Soc. Nat. Hist.*, May, 1879; XX. 278.)
29. The Use of Numbers in Society. (*Atlantic Monthly*, Sept. 1879; XLIV. 326.)
30. Future of Precious Metal Mining in the United States. (*Atlantic Monthly*, June, 1880; XLV. 765.)

* * See also the Bulletin and Reports of the Museum of Comparative Zoölogy, the Annals of the Astronomical Observatory and the Reports of the Peabody Museum.

Stephen Paschall Sharples.*Assistant in Chemistry, 1869-1871.*

1. On some Rocks and other Dredgings from the Gulf Stream. (*Am. Journal of Science and Arts*, March, 1871; 3d Ser. I. 168.)
2. On some Forms of the Galvanic Battery. (Id. April, 1871; 3d Ser. I. 247.)

Frederick Cheever Shattuck.*Assistant in Clinical Medicine, 1879-*

1. Fibroid Pthisis. (*Boston Med. and Surg. Journal*, March, 1880; CII. 241.)
2. Report on the Progress of Medicine in Diseases of the Lungs, 1873-1880. (*Ziemssen's Cyclopaedia of the Practice of Medicine*. Supplement. New York, 1881.)

Edward Stevens Sheldon.*Tutor in German, 1878- .*

1. A Short German Grammar for High Schools and Colleges. Boston, 1879. 12^o.

John Langdon Sibley.*Librarian, 1856-1877; Librarian Emeritus, 1877- .*

1. Biographical Sketches of Graduates of Harvard University, in Cambridge, Massachusetts, 1642-1658. With an Appendix, containing an Abstract of the Steward's Accounts, and Notices of Non-Graduates from 1649-50 to 1659. Cambridge, 1873. 8^o.

** Vol. II. is now in press.

2. Cyrus Eaton. (*Proc. Mass. Hist. Soc.*, Feb. 1875; XIII. 438. Boston, 1875. And [under the title: A Remarkable Self-Made Man] *Unitarian Review*, April, 1875; III. 373.)
3. Address at the Conference of Librarians at Harvard University, 2 July, 1879. (*Library Journal*, July-Aug. 1879; IV. 305.)

** See also the University Publications.

Daniel Denison Slade.*Professor of Applied Zoölogy, 1871- .*

** See the Bulletin of the Bussey Institution.

Clement Lawrence Smith.*Tutor in Latin, 1870-1873; Assistant Professor of Latin, 1873- .*

1. On the Use of Language in Education. Address before the Alumni Association of Haverford College, July 1, 1873. Phila. 1873. (Also in the *Friends' Quarterly Examiner*. London, Jan. 1874.)
2. Shall we teach Greek and Latin as Dead Languages? (*The Quaker Alumnus*. Phila. Jan. 1879.)

** See also the University Publications.

Evangelinus Apostolides Sophocles.*University Professor of Ancient, Byzantine, and Modern Greek, 1860- .*

1. Greek Lexicon of the Roman and Byzantine Periods (from B.C. 146 to A.D. 1100). xvi, 1188. Boston, 1870. 1. 8^o.

Oliver Stearns.*Parkman Professor of Theology, 1863-1878.*

1. The Aim and Expectation of Jesus. (*Christianity and Modern Thought*, 271. [Pub. by Am. Unit. Assoc.] Boston, 1872.)
2. The Divinity School of Harvard University. (*The Harvard Book*. Edited by Vaile and Clark. I. 197. Cambridge, 1875. 4^o.)

Frank Steindachner.*Assistant in Ichthyology, 1871-1873.*

** See the Reports of the Museum of Comparative Zoölogy.

Francis Humphreys Storer.*Professor of Agricultural Chemistry, 1870- .*

1. A Cyclopædia of Quantitative Chemical Analysis. Part II. Boston, 1873. 8^o.
2. Cherry Blossoms destroyed by Squirrels. (*Nature*, Nov. 1875; XIII. 26.)
3. Ammonia a Constant Contaminant of Sulphuric Acid. (*Am. Jour. Sci. and Arts*, Dec. 1875; 3d Ser. X. 438.)
4. Schænbein's Test for Nitrates. (Id. Sept. 1876; 3d Ser. XII. 176.)
5. Note on the Ferment Theory of Nitrification. (Id. June, 1878; 3d Ser. XV. 444.)
6. Epsom Salt versus Strawberries. (*Am. Journ. of Pharmacy*, July, 1878; 4th Ser. VIII. 321.)
7. Some of the Uses of Agricultural Study. (*Harvard Register*, Feb. 1880; I. 38.)
8. Reclamation of Bog-Land, by the German Method of Burying with Gravel. (*Rural New Yorker*, Feb. 1880; XXXIX. 101.)
9. Dr. Angus Smith on the Waste of Ammonia in Coke-Making. (Id. Feb. 1880; XXXIX. 120.)
10. Maximum Yield of Wheat. (Id. April, 1880; XXXIX. 246.)
11. Money Value of Leached Ashes. (Id. April, 1880; XXXIX. 262.)
12. Hurtfulness of Chlorides to the Tobacco Crop. (Id. May, 1880; XXXIX. 277.)
13. New Evidence in respect to Weevil-eaten Peas. (Id. May, 1880; XXXIX. 294.)
14. Bone Chewing by Cattle. (Id. May, 1880; XXXIX. 311.)
15. The Agricultural School as a Preparation for the Study of Medicine. (*Harvard Register*, June, 1880; I. 111.)
16. Indian Corn as a Starch Crop. (*Rural New Yorker*, June, 1880; XXXIX. 358.)
17. Deer's Horns eaten by Cattle. (Id. June, 1880; XXXIX. 376.)
18. The So-called Process of Ensilage. (Id. July, 1880; XXXIX. 424.)
19. A Scientific View of Composts. (Id. Aug. 1880; XXXIX. 503, 517, 549.)
20. The Valuation of "Reverted" Phosphoric Acid. (Id. Sept. 1880; XXXIX. 586.)

Several new editions of the following works: -

21. A Manual of Inorganic Chemistry, arranged to facilitate the Experimental Demonstration of the Facts and Principles of the Science. By C. W. Eliot and F. H. Storer. New York. 8^o.
22. An Elementary Manual of Chemistry, abridged from Eliot and Storer's Manual, with the Coöperation of the Authors, by W. R. Nichols.
23. A Compendious Manual of Qualitative Chemical Analysis, by C. W. Eliot and F. H. Storer. Revised, with the Coöperation of the Authors, by W. R. Nichols.

** See also the Bulletin of the Bussey Institution.

William Edward Story.*Tutor in Mathematics, 1875-1876.*

1. On the Algebraic Relations existing between the Poles of a Binary Quantic. Leipzig, 1875. pp. 59.

James Bradley Thayer.*Royall Professor of Law, 1873- .*

1. Letters of Chauncey Wright. With some Account of his Life by J. B. Thayer. Privately Printed. Cambridge, 1878. 8°.

Howard Malcom Ticknor.*Instructor in Elocution, 1878- .*

1. On the Status of Elocution in Harvard College. (*Harvard Register*, Sept. 1880; II. 180.)

John Trowbridge.*Assistant Professor of Physics, 1870-1880. Professor of Physics, 1880- .*

1. A New Form of Galvanometer. (*Am. Journ. of Sci. and Arts*, Aug. 1871; 3d Ser. II. 118.)
2. Animal Electricity. Presented Jan. 1872. (*Proc. Am. Acad. of Arts and Sciences*, VIII. 244.)
3. Electromotive Action of Liquids separated by Membranes. (*Am. Journ. of Sci. and Arts*, May, 1872; 3d Ser. III. 342.)
4. On the Electrical Condition of Gas-Flames. (Id. July, 1872; 3d Ser. IV. 4.)
5. Ohm's Law considered from a Geometrical Point of View. (Id. Aug. 1872; 3d Ser. IV. 115.)
6. Induced Currents and Derived Circuits. (Id. May, 1873; 3d Ser. V. 372.)
7. On a Method of Freeing a Magnetic Bar from the Influence of the Earth's Magnetism. (Id. May, 1874; 3d Ser. VII. 490.)
8. On a Molecular Change produced by the Passage of Electrical Currents through Iron and Steel Bars. (Id. July, 1874; 3d Ser. VIII. 18.)
9. On a New Induction-Coil. April, 1875. (*Proc. Am. Acad. of Arts and Sci.*, X. 381.)
10. Construction of Gaugain's Galvanometer. (*Am. Journ. of Sci. and Arts*, May, 1875; 3d Ser. IX. 383.)
11. On the Effect of thin Plates of Iron used as Armatures to Electro-Magnets. Feb. 1876. (*Proc. of Am. Acad. of Arts and Sciences*, XI. 202.)
12. On the So-called Etheric Force. Feb. 1876. (Id. XI. 206.)
13. On a New Form of Mirror-Galvanometer. Feb. 1876. (Id. XI. 208.)
14. On Vortex-Rings in Liquids. March, 1877. (Id. XII. 131.)
15. Methods of measuring Electric Currents of great strength; together with a Comparison of the Wilde, the Gramme, and the Siemen's Machines. Oct. 1878. (Id. XIV. 122.)

16. (With W. N. Hill.) On the Heat produced by the Rapid Magnetization and Demagnetization of the Magnetic Metals. [Preliminary Paper.] Dec. 1878. (Id. XIV. 114.)
17. Simple Apparatus for illustrating Periodic Motion. Dec. 1879. (Id. XV. 232.)
18. Illustration of the Conservation of Energy. Dec. 1879. (Id. XV. 235.)
19. The Study of Physics in the Secondary Schools. (*Popular Science Monthly*, June, 1879, XV. 159.)
20. Superstition and Scientific Training. (*Independent* [N. Y.], July 29, 1880.)
21. The Earth as a Conductor of Electricity. (*Proc. Am. Acad. of Arts and Sciences*, 1880, XVI. 58.)
22. Editorship of Physical Notes in the *Am. Journ. of Science and Arts*, beginning with the year 1879.
23. Supervision of the following Contributions from the Physical Laboratory of Harvard College:—
Demagnetization of Electro-Magnets. By R. W. Willson. (*Am. Journ. of Sci. and Arts*, May, 1872; 3d Ser. III. 346.) On a Method of measuring Induced Currents. By F. H. Bigelow. (Id. May, 1873; 3d Ser. V. 374.) On Methods of determining the Resistance of a Battery. By N. D. C. Hodges. (Id. 375.) A Note on Melde's Experiment on the Vibration of Strings. By W. Lowery. (Id. May, 1874; 3d Ser. VII. 493.) A Spark-Adjuster for the Holtz Machine. By J. J. Minot. (Id. 494.) Effect of Condensers on the Brush Discharge from the Holtz Machine. By J. W. Fewkes. (Id. 496.) Magnetism of Soft Iron. By D. Sears. (Id. July, 1874; 3d Ser. VIII. 21.) Increase of Magnetism in a Bar of Soft Iron upon Reversal of the Magnetizing Current. By W. A. Burnham. (Id. Sept. 1874; 3d Ser. VIII. 202.) Experiments on the Dissipation of Electricity by Flames. By J. W. Fewkes. (Id. 207.) Polarization of the Plates of Condensers. By A. S. Thayer. (Id. 208.) On the Effect of Heat upon the Magnetic Susceptibility of Soft Iron. By H. Amory and F. Minot. (*Proc. Am. Acad. of Arts and Sciences*, X. 308.) On the Effect of Armatures on the Magnetic State of Electro-Magnets. By B. O. Peirce and E. B. Lefavour. (Id. X. 385.) On the Time of Demagnetization of Soft Iron. By W. C. Hodgkins and J. H. Jennings. (Id. 387.) On the Induction-Spark produced in breaking a Galvanic Circuit between the Poles of a Magnet. By B. O. Peirce, Jr. (Id. XI. 218.) Condensers and Geissler Tubes. By W. P. Wilson. (Id. 228.) A New Form of Magneto-Electric Engine. By W. R. Morse. (*Am. Jour. of Sci. and Arts*, May, 1875; 3d Ser. IX. 386.) On the Distribution of Electrical Discharges from Circular Discs. By C. J. Bell. (Id. June, 1875; 3d Ser. IX. 458.) An Application of the Horizontal Pendulum. By H. Amory. (Id. July, 1875; 3d Ser. X. 21.) Distribution of Magnetism on Armatures. By H. Whiting. (*Proc. Am. Acad. XI. 293.*) Change of Electrical Resistance in Wires by stretching. By G. S. Pine. (Id. 303.) On the Intensity of Terrestrial Magnetism at Cambridge. By H. Goldmark. (Id. XIII. 414.) The Effect of Temperature upon Atmospheric Electricity. By H. Goldmark. (*Am. Jour. of Sci. and Arts*, July, 1878; 3d Ser. XVI. 52.) A New Method of studying Wave Motion. By H. H. Eustis. (*Proc. Am. Acad. XV. 218.*) Vibration of Circular and Elliptical Plates. By

F. E. Cabot. (Id. 219.) Perforated Vibrating Discs. By F. E. Cabot. (Id. XV. 222.) Effect of Distance on Appreciation of Color. By W. H. Schwartz. (Id. 229.) The Magnetic Moment of Fleitman's Nickel. By J. E. Bullard. (Id. XVI. 46.) Thermal Conductivity of Glass and Sand. By C. B. Penrose. (Id. XVI. 47.) Effect of the Tension of Membranes on Sound. By G. F. Hartshorn. (Id. XVI. 56.) A Phenomenon of Electrical Convection. By J. J. Greenough. (Id. XVI. 58.)

* * See also the Bulletin of the Library.

Winslow Upton.

Assistant in the Observatory, 1877-1879.

1. Determination of the Orbit of (185) Eunike. (*Astronomische Nachrichten*, XCIV. 51.)

* * See also the Annals of the Astronomical Observatory.

Marshman Edward Wadsworth.

Instructor in Mathematics and Mineralogy, 1874-1877; Assistant in Geology, 1877-1878. Assistant in Lithology in the Museum of Comparative Zoology, 1878-

1. Notes on the Mineralogy and Petrography of Boston and Vicinity. (*Proc. Bost. Soc. Nat. Hist.*, May, 1877; XIX. 217.)
2. On the Granite of North Jay, Maine. (Id. May, 1877; XIX. 237.)
3. Fusibility of the Amorphous Varieties of Quartz. (Id. 238.)
4. On the so-called Tremolite of Newbury, Mass. (Id. Oct. 1877; XIX. 251.)
5. Notes on the Petrography of Quincy and Rockport. (Id. Feb. 1878; XIX. 309.)
6. Rutley's Study of Rocks. (*Am. Naturalist*, June, 1879; XIII. 385.)
7. Danalite from the Iron Mine, Bartlett, New Hampshire. (*Proc. Bost. Soc. Nat. Hist.*, Oct. 1879; XX. 284.)
8. Picrolite from a Serpentine Quarry in Florida, Mass. (Id. 286.)
9. Report on the Copper Falls Mine, Keweenaw Co., Michigan. Boston, 1879. 8°. pp. 14.
10. On the Elongation and Plasticity of Pebbles in Conglomerates. (*Proc. Bost. Soc. Nat. Hist.*, Nov. 1879; XX. 313.)
11. On the Origin of the Iron Ores of the Marquette District, Lake Superior. (Id. March, 1880.)
12. Report on the Mica Deposits of the Hartford Mica Mining Company, Groton, Grafton Co., New Hampshire. Boston, 1880. 12°. pp. 7.
13. The Volcanic Dust from Dominica. (*Nature*, July, 1880; XXII. 266.)
14. On the Age of the Copper-Bearing Rocks of Lake Superior. (*Proc. Am. Assoc. Adv. Sci.*, Aug. 1880. Boston.)
15. On Amygdaloidal Structure and Vein Formation, with Special Reference to the Copper-bearing Rocks of Keweenaw Point, Lake Superior, being a Reply to Prof. James D. Dana. (*Proc. Bost. Soc. Nat. Hist.*, Nov. 1880; XXI.)

* * See also the Bulletin of the Museum of Comparative Zoology.

Leonard Waldo.

Assistant in the Observatory, 1875-1880.

1. Engineer's Instruments and their Adjustments. Boston. pp. 40. 1. 8°.
2. On the Longitude of Waltham, Mass. Nov. 1877. (*Proc. Am. Acad. of Arts and Sciences*, XIII. 175.)
3. A Lecture on telling the Time. (*Bulletin of Essex Institute*, Feb. 1878; X. 40.)
4. Note on the Measurement of Short Lengths. Feb. 1878. (*Proc. Am. Acad.*, XIII. 352.)
5. Observations of the Satellites of Mars, and Miscellaneous Observations of Double Stars made in 1876 at the Observatory of Harvard College. (*Astronomische Nachrichten*, No. 2190; XCII. 87.)
6. Meridian Observations of Mercury at its Transit. May 5-6, 1878. (Id. No. 2207; XCII. 361.)
7. Observations of the Satellites of Saturn. (Id. Nos. 2254 and 2255; XCIV. 339.)
8. Report of the Observations of the Total Solar Eclipse, July 29, 1878, made at Fort Worth, Texas. Cambridge, 1879. 4°. [Mr. Waldo edited the volume and wrote a special report.]
9. Articles "Transit," "Sextant," "Telescope," "Ruling Machine," "Time Signals," "Mural Circle," "Zenith Telescope." (*Johnson's New Universal Cyclopaedia*. New York, 1877-78.)
10. Description of a New Position Micrometer. (*Am. Journ. of Science and Arts*, July, 1880; 3d Ser. XX. 49.)
11. On the Adaptation of the Opera-Glass to extremely Myopic Eyes. (*N. Y. Ophthalmological Journal*, 1880.)

* * Mr. Waldo furnished the Report on the "time service" to the *Annual Report* of the director of the Astronomical Observatory for 1877, App. C.

John Collins Warren.

Instructor in Surgery, 1871 -

1. Anatomy and Development of Rodent Ulcer. Boylston Prize Essay for 1872. Boston, 1872. 8°. pp. 66.
2. Vaginal Lithotomy. (*Bost. Med. and Surg. Journ.*, July, 1876; XCV. 61.)
3. Columnæ Adiposæ, or, Note on the Anatomy and Pathology of the Skin. (Id. April, 1877; XCVI. 453.)
4. Symmetrical Gangrene of the Extremities. (Id. Jan. 1879; C. 76, 125.)
5. Clinical Lecture on Cancer of the Face, including "Rodent Ulcer." (*London Medical Times and Gazette*, 1879. Also *Bost. Med. and Surg. Journ.*, May, 1879; C. 625.)
6. The Treatment of Irreducible Hernia. (*Bost. Med. and Surg. Journ.*, March, 1880; CII. 271, 276.)
7. The Pathology of Carbuncle or "Anthrax." (Id. Jan. 1881; CIV. 5.)
8. Editorial Articles, Hospital Reports, etc., in *Bost. Med. and Surg. Journal* from 1872 to 1880, inclusive; LXXXVI.-CIII.

Emory Washburn.*Bussey Professor of Law, 1856-1876.*

1. Lectures on the Study and Practice of the Law, delivered in the Law School of Harvard University. Boston, 1871.
2. Address. (*Celebration of One Hundred and Fiftieth Anniversary of the Organization of the Town of Leicester*, 8. Cambridge, 1871.)
3. Address at the Dedication of the Normal School Building at Worcester, 1871.
4. Commencement Address at the Worcester County Free Institute of Industrial Science. Worcester, 1873.
5. International Code. 1873.
6. Remarks on a Visit to New Brunswick. (*Proc. Mass. Hist. Soc.*, 1873-1875, 76.)
7. The Tenure of Lands in New England. (Id. 114.)
8. Did the Vacating the Colonial Charter annul the Laws made under it? (Id. 451.)
9. Reasons for a Separate State Prison for Women. Boston, 1874. pp. 8.
10. Memoir of Hon. Joel Parker. (*Proc. Mass. Hist. Soc.*, 1875-1876, 172.)
11. Remarks made at the Centennial Celebration of Leicester, Mass. 1876.
12. Memoir of Colonel William Henshaw. (*Proc. Mass. Hist. Soc.*, 1876-1877, 65)

Sereno Watson.*Curator of the Herbarium, 1874- .*

1. New Plants of Northern Arizona and the Region Adjacent. (*Am. Naturalist*, May, 1873; VII. 299.)
2. Revision of the Extra-Tropical North American Species of the Genera *Lupinus*, *Potentilla*, and *Eriogonum*. Nov. 1873. (*Proc. Am. Acad. of Arts and Sciences*, VIII. 517.)
3. On Section *Avicularia* of the Genus *Polygonum*. (*Am. Naturalist*, Nov. 1873; VII. 662.)
4. Revision of the North American *Chenopodiaceæ*. April, 1874. (*Proc. Am. Acad.*, IX. 82.)
5. List of Plants collected in Nevada, Arizona, and Utah in 1871 and 1872. (*Geog. and Geol. Explorations and Surveys West of the One Hundredth Meridian*. Catalogue of Plants collected in the Years 1871, 1872, and 1873, with Descriptions of New Species, 5. Washington, 1874.)
6. Revision of the Genus *Ceanothus* and Descriptions of New Plants, with a Synopsis of the Western Species of *Silene*. March, 1875. (*Proc. Am. Acad.*, X. 333.)
7. Botanical Contributions. Oct. 1875. (Id. XI. 105.)
 - i. On the Flora of Guadalupe Island, Lower California. (Reprinted in *Am. Naturalist*, April, 1876; X. 221.)
 - ii. List of a Collection of Plants from Guadalupe Island, made by Dr. Edward Palmer, with his Notes upon them.
 - iii. Descriptions of New Species of Plants, chiefly Californian, with Revisions of Certain Genera.

8. Botany of California, Vol. I. Polypetalæ, by W. H. Brewer and Sereno Watson. Gamopetalæ, by Asa Gray. Cambridge, 1876. [Second (revised) edition, 1880.] (*California Geological Survey*.)
9. Descriptions of New Species of Plants, with Revisions of *Lychnis*, *Eriogonum*, and *Chorizanthe*. June, 1876. (*Proc. Am. Acad.*, XII. 246.)
10. The Poplars of North America. (*Am. Journ. of Science and Arts*, Feb. 1878; 3d Ser. XV. 135.)
11. Bibliographical Index to North American Botany; or, Citations of Authorities for all the Recorded Indigenous and Naturalized Species of the Flora of North America, with a Chronological Arrangement of the Synonymy. Part I. Polypetalæ. (*Smithsonian Miscellaneous Collections*, No. 258.) Washington, March, 1878.
12. Leguminosæ. (*Report upon United States Geographical Surveys West of the One Hundredth Meridian*. VI. Botany. 84. Washington, 1878.)
13. Contributions to American Botany, July, 1879. (*Proc. Am. Acad.*, XIV. 213.)
 - i. Revision of the North American *Liliaceæ*.
 - ii. Descriptions of some New Species of North American Plants.
14. Botany of California. II. Cambridge, 1880. (*California Geological Survey*.)

Samuel Gilbert Webber.*Clinical Instructor in Diseases of the Nervous System, 1875- .*

1. Spinal Meningeal Hæmorrhage. (*Bost. Med. and Surg. Journal*, July, 1875; XCIII. 39.)
2. Concerning Acts committed by Epileptics. [Translation.] (Id. Sept. 1875; XCIII. 306.)
3. A Case of Lesion of Median Nerve, with reference to Distribution of that Nerve. (Id. Dec. 1875; XCIII. 631.)
4. A Contribution to the Study of Myelitis. (*Trans. Am. Neurological Assoc.*, 1875; I.)
5. The New Battery for Electrolysis of Uterine Fibroids. (*Bost. Med. and Surg. Journal*, Feb. 1876; XCIV. 209.)
6. Caries of the Cervical Vertebrae. (Id. March, 1876; XCIV. 259.)
7. Electricity as a Means of relieving Pain. (*Am. Psychological Journal*, May, 1876; III.)
8. Facial Paralysis of Cerebral Origin occurring in Infancy. (*Chicago Journal of Nervous and Mental Disease*, July, 1876; III. 363.)
9. Pain as a Symptom in Facial Paralysis, and its Causes. (*Bost. Med. and Surg. Journal*, Dec. 1876; XCV. 750.)
10. Nervous Symptoms secondary to slight Gastric Disturbance. (Id. Sept. 1877; XCVII. 354.)
11. Softening of the Brain. (Id. Dec. 1877; XCVII. 667.)
12. Paralysis after Acute Diseases with Special Reference to Pathology. (*Trans. Am. Neurol. Assoc.*, 1877; II.)
13. Hypertrophy and Atrophy of the Brain. (*Ziemssen's Cyclopaedia of Medicine*, 1877; XII.)
14. "Tetanus," "Catalepsy," "Tremor," "Paralysis Agitans." [Translations.] (Id. 1877; XIV.)

15. Sclerosis of the Spinal Cord. (*Med. and Surg. Reports of Boston City Hospital*, 2d Series, 183. Boston, 1877.)
16. Cases of Hemiplegia, etc. (*Journal of Nervous and Mental Disease*, Jan. 1878; V. 99.)
17. Tumor in the Cerebellum. (Id. July, 1878; V. 445.)
18. Three Cases of Cerebral Meningitis from Different Causes. (*Bost. Med. and Surg. Journal*, Sept. 1879; CI. 357.)
19. Pseudo-Hypertrophic Paralysis. (Id. Sept. 1879; CI. 460.)
20. Myelitis, Acute and Subacute, with a Report of Eight Cases. (Id. Feb. 1880; CII. 157, 173.)
21. Water as a Prophylactic and a Remedy. (Id. July, 1880; CIII. 35. *Archives of Medicine*, Aug. 1880.)
22. Cardiac Irregularity as the only Result of Fright. (Cardiac Chorea.) (*Bost. Med. and Surg. Journal*, July, 1880; CIII. 93.)
10. Four Cases of Scleroderma. (Id. July, 1875.)
11. Ivy Poisoning. (*Boston Med. and Surg. Journal*, Sept. 1875; XCIII. 265.)
12. On the Selection of Medical Examiners. (*Insurance Index*, Sept. 1875.)
13. Analysis of Five Thousand Cases of Skin Disease. (*Bost. Med. and Surg. Journal*, Jan., Feb., March, May, 1876; XCIV. 85, 171, 323, 501, 565.)
14. Variations in Type and in Prevalence of Diseases of the Skin in Different Countries of Equal Civilization. Read before the International Medical Congress at Philadelphia. (*Proc. Internat. Medical Congress for 1876*. 665. Phila. 1877. Also printed separately, Phila. 1877. pp. 20.)
15. Dermatology in America. The President's Address before the American Dermatological Association. (*Archives of Dermatology*, Jan. 1877.)
16. Lichen exudativus ruber. (*Hospital Gazette and Archives of Clin. Surgery*, Nov. 1877.)
17. Lecture on Ringworm [*Tinea trichophytina*]. (*Bost. Med. and Surg. Journal*, Feb. 1878; XCVIII. 191.)
18. Melanoderma. (Id. May, 1878; XCVIII. 619.)
19. Recurrent Cutaneous Hæmorrhage, with Urticarial and Bullous Efflorescence. (Id. Oct. 1878; XCIX. 454.)
20. A Contribution to the Study of the Etiology of Skin Diseases. (Id. Oct. 1879; CI. 572.)
21. A Fourth Year in the Medical School. (*Harvard Register*, April, 1880; I. 78.)
22. The Skin in Health and Disease. (*Wood's Household Medicine*, I. 1880.)

Henry Nathan Wheeler.

Instructor in Mathematics, 1877 - .

1. The Elements of Plane Trigonometry. Boston, [1876] 1877, 1880. 120.
2. Spherical Trigonometry. Boston, 1878, also, 1880. 120.
3. The Harvard University Catalogue for 1879-80. (*Harvard Register*, Jan. 1879; I. 8.)
4. The Harvard University Catalogue for 1880-81. (Id. Dec. 1880; II. 242.)

*** See also University Publications.

James Clarke White.

Assistant Professor of Chemistry, 1866-1871; *Professor of Dermatology*, 1871 - .

1. Medical Education in America. An Introductory Address. (*Bost. Med. and Surg. Journal*, Nov. 1870; LXXXIII. 277.)
2. A Review of Modern Dermatology. (*Am. Journal of Medical Sciences*, April, 1871.)
3. On the Protection acquired by the Human Skin and other Tissues against the Action of certain Animal Poisons, after Repeated Inoculation. (*Boston Med. and Surg. Journal*, Nov. 1871; LXXXV. 297.)
4. The Vegetable Parasites of the Human Skin. (*Third Ann. Rep. Mass. Board of Health for 1871*, 247. Boston, 1872.)
5. Semi-Annual Reports on the Progress of Dermatology. (*Bost. Med. and Surg. Journal*, June and Dec. 1872-1880; LXXXVII.-CIII.)
6. On Expert Testimony and the Alley Trial. (Id. Feb. 1873; LXXXVIII. 225.)
7. On the Poisonous Action of *Rhus toxicodendron* and *R. venenata* on the Human Skin. (*New York Medical Journal*, March, 1873. Also printed separately, New York, 1873. pp. 27.)
8. Poisoning by the use of Tincture of Arnica upon the Skin. (*Bost. Med. and Surg. Journal*, Jan. 1875; XCII. 61.)
9. Semi-Annual Reports on Acute Exudative Diseases of the Skin. (*Archives of Dermatology*, Jan. and July, 1875-1880.)

John Williams White.

Tutor in Greek, 1874-1877; *Assistant Professor of Greek*, 1877 - .

1. A Series of First Lessons in Greek. Adapted to Goodwin's Greek Grammar, and designed as an Introduction either to Goodwin's Greek Reader, or to his Selections from Xenophon and Herodotus, or to the Anabasis of Xenophon. Boston, 1876. 120. [2d Ed. 1880. Also London, 1880.]
2. Key to the Series of First Lessons in Greek. Boston, 1876. 120. pp. 53. [Also Key to 2d Ed. of First Lessons, &c. Boston, 1880.]
3. A Companion of Parallel References to Hadley's Greek Grammar, designed to accompany White's First Lessons in Greek. Boston, 1876. 120. pp. 32.
4. (With W. W. Goodwin.) Selections from Xenophon and Herodotus. Boston, 1877. 120.
5. (With W. W. Goodwin.) The First Four Books of Xenophon's Anabasis. Boston, 1877. 120. [Also London, 1880.]
6. An Introduction to the Rhythmic and Metric of the Classical Languages. To which are added the Lyric Parts of the Medea of Euripides and the Antigone of Sophocles, with rhythmic schemes and commentary. By Dr. J. H. Heinrich Schmidt. Translated by J. W. White. Boston, 1878. 80. xii, 198.
7. Greek and Latin at Sight. A Pamphlet reprinted from the New-England Journal of Education. Boston, 1878. 120. pp. 21.

8. Stein's Summary of the Dialect of Herodotus. Translated by J. W. White. Boston, 1880. 129 pp. 15.

Josiah Dwight Whitney.

Sturgis Hooper Professor of Geology, 1865 -

1. Ornithology [of California]. Vol. I. Land Birds. Edited by S. F. Baird from the MS. and Notes of J. G. Cooper. xi. 592. [Cambridge.] 1870. Roy. 80.
2. The Yosemite Guide Book. [Cambridge.] 1870. 40. [Two editions 160. Cambridge, 1871 and 1874.]
3. Earthquakes, Volcanoes, and Mountain-Building. Three Articles published in the North Am. Review, 1869-71. Cambridge, 1871. 80.
4. State Geological Survey. (*Overland Monthly*, Jan. 1872; VIII. 79.)
5. Note on the Occurrence of the "Primordial Fauna" in Nevada. (*Am. Journal Science and Arts*, II. 41; Feb. 1872; 3d Ser. III. 84.)
6. The Owen's Valley Earthquake. (*Overland Monthly*, Aug. and Sept. 1872; IX. 130, 266.)
7. Note on the Occurrence of the Trias in British Columbia. (*Am. Journal Science and Arts*, June, 1873; 3d Ser. V. 473.)
8. Physical Features of the United States. (*Walker's Statistical Atlas of the United States*. [New York] 1874. 40.)
9. Contributions to Barometric Hypsometry, with Tables for use in California. [Cambridge.] 1874. pp. 88. Roy. 80. [Supplement, pp. 89-112, added in 1878.]
10. Map of California and Nevada. Scale, 18 miles to 1 inch. Two Sheets. 1874.
11. Map of Central California. Scale, 6 miles to 1 inch. Four Sheets, three completed. 1874.
12. "California." (*Encyclopædia Britannica*, 9th ed. Also printed separately, Boston, 1875. 160.)
13. Geographical and Geological Surveys. From the North American Review for July and Oct. 1875. Cambridge, 1875. 80.
14. Are We Drying Up? (*Am. Naturalist*, Sept. 1876; X. 513.)
15. Plain, Prairie, and Forest. (Id. Oct. and Nov. 1876; X. 577, 656.)
16. Botany [of California]. Vol. I. The Polypetalæ. By W. H. Brewer and Sereno Watson. The Gamopetalæ. By Asa Gray. xx., 628. Cambridge, 1876. Roy. 80. [2d ed., revised and corrected, 1880.]
17. The Chinese Loess Puzzle. (*Am. Naturalist*, Dec. 1877; XI. 705.)
18. Collection of Mining Statistics. (Appendix to *Rep. of Sup. of Census to Sec. of Interior*, 1878. Washington, 1878.)
19. The Fossil Plants of the Auriferous Gravel Deposits of the Sierra Nevada of California. By Leo Lesquereux. pp. 62. Cambridge, 1878. Roy. 80. The Climatic Changes of Later Geological Times: a Discussion based on Observations made in the Cordilleras of North America. Part I. Roy. 40. (*Contributions to American Geology*, Vol. II.)
20. Geological Map of the Region adjacent to the Bay of San Francisco. Scale, 2 miles to 1 inch. Two Sheets. 1878.

21. Botany [of California]. Vol. II. By Sereno Watson. xv., 559. Cambridge, 1880. Roy. 80. [Completing the work.]
22. The Auriferous Gravels of the Sierra Nevada of California. xvi., 569. Cambridge, 1880. Roy. 40. (*Contributions to American Geology*, Vol. I.)

*** Nos. 1, 2, 9, 10, 11, 16, 20, and 21 are contributions to the *Geological Survey of California*. J. D. Whitney, Director. Nos. 19 and 22, appear in the *Memoirs of the Museum of Comparative Zoology*, as well as in the *Geological Survey of California*. See also the *Memoirs and Reports of the Museum of Comparative Zoology*.

Edward Wigglesworth.

Clinical Lecturer and Instructor on Syphilis, 1871 -

1. Epithelial Carcinoma. (*Bost. Med. and Surg. Journal*, Jan. 1871; LXXIV. 33.)
2. Koester on Epithelial Cancer. (*Am. Journal of Syphilography and Dermatology*, [New York.], April, 1871.)
3. Duhring's Study of Dermatology. (*Bost. Med. and Surg. Journal*, May, 1871; LXXXIV. 315.)
4. Taylor on Dactylitis Syphilitica. (Id. June, 1871; LXXXIV. 393, 413.)
5. Fox on Skin Diseases. (Id. Nov. 1871; LXXXV. 333.)
6. Editorship, as Secretary, of the Proceedings of Boston Soc. of Med. Sciences, 1871-73, inclusive. (Id. LXXXV.-LXXXIX.)
7. Alopecia [Baldness]. (*Publications of Mass. Med. Soc.*, 1871.)
8. Bulkley's Neumann on Skin Diseases. (*Bost. Med. and Surg. Journal*, March, 1872; LXXXVI. 205.)
9. Case of Dactylitis Syphilitica; illustrated. (*Am. Journal of Syphilography and Dermatology*, [New York.], April, 1872.)
10. Henry's Vienna Hospital Treatment of Venereal Diseases. (*Bost. Med. and Surg. Journal*, May, 1872; LXXXVI. 299.)
11. Hæmorrhagic Small Pox. (Id. Jan. 1873; LXXXVIII. 25.)
12. Case of Prurigo Ferox Universalis; with Remarks. (*Am. Journal of Syphilography and Dermatology* [New York.], Jan. 1873.)
13. Treatment of Erysipelas. (*Bost. Med. and Surg. Journal*, Feb. 1873; LXXXVIII. 207.)
14. Annual Reports of the Boston Dispensary for Skin Diseases, 1873-77, inclusive. Boston.
15. Semi-annual Digests of the Literature of Skin Diseases upon "Hypertrophies, Atrophies, and New Formations." (*Archives of Dermatology* [New York.], Oct. 1874-Jan. 1881.)
16. Affections of the Sebaceous Glands. (*Bost. Med. and Surg. Journal*, Jan. and March, 1875; XCII. 92, 313. Also printed separately.)
17. "Varicella," "Measles," and "Rubeola." (*Ziemssen's Cyclopædia of the Practice of Medicine*, Vol. II., Acute Infectious Diseases. Am. ed. 1875.)
18. A Case of Idiopathic, Multiple, Medullary, Round-celled Sarcoma of the Skin, with a Retrospect of all recorded similar Cases. (*Archives of Dermatology* [New York.], Jan. 1876. Also printed separately, New York, 1876. pp. 10.)

19. Editorship, as Secretary, of the Proceedings of Boston Soc. for Medical Observation. (*Bost. Med. and Surg. Journal*, 1876; XCIV.)
20. The Curette in Dermal Therapeutics. (Id. Feb. 1876; XCIV. 143.)
21. Fibromata of the Skin and Subjacent Tissues; illustrated. (*Archives of Dermatology* [New York], April, 1876.)
22. Piffard on Skin Diseases. (Hay's *Am. Journal of Med. Sciences* [Phila.], 1876.)
23. Duhring's Practical Treatise on Diseases of the Skin. (*Philadelphia Med. Times*, March, 1877.)
24. Proceedings Am. Dermatological Assoc. (*Bost. Med. and Surg. Journal*, Sept. 1877; XCVII. 309. Sept. 1879; CI. 341, 375.)
25. Auto-Inoculation of Vegetable Parasites of the Skin, and the Clinical Testimony for their Identity or Non-Identity. (*Archives of Dermatology* [New York], Jan. 1878.)
26. Recent Progress in Syphilology. (*Bost. Med. and Surg. Journal*, Feb. 1878; XCVIII. 271. Dec. 1878; XCIX. 793, 829. April, 1879; C. 569. May, 1879; C. 602. Oct. 1879; CI. 588.)
27. Recent Progress in Dermatology and Syphilis. (Id. April, 1880; CII. 394, 419.)

Henry Willard Williams.

Lecturer on Ophthalmology, 1869-1871; Professor of Ophthalmology, 1871 - .

1. Our Eyes, and How to Take Care of Them. Boston, 1871. 120.
2. Enucleation of the Eyeball. (*Bost. Med. and Surg. Journal*, Dec. 7, 1871; LXXXV. 361.)
3. Improvement in Cataract Operations. (Id. Dec. 5, 1872; LXXXVII. 385.)
4. A Practical Guide to the Diseases of the Eye: their Medical and Surgical Treatment. 4th ed. revised and enlarged. Boston, 1873. 80.
5. Tattooing the Cornea. (*Bost. Med. and Surg. Journal*, July 3, 1873; LXXXIX. 4.)
6. Puerperal Amaurosis and its Importance as a Symptom. (Id. Oct. 16, 1873; LXXXIX. 373.)
7. Serious Pathological Changes in Myopic Eyes. (Id. Oct. 29, 1874; XCI. 413.)
8. Peculiar Phenomena attending a Case of Sudden Temporary Loss of Hearing and Sight. (*Trans. Am. Ophthalmological Soc.*, July, 1875.)
9. On the Comparative Value of Caustics and Astringents in the Treatment of Diseases of the Conjunctiva, and on the Best Mode of applying these Remedies. (*Trans. Internat. Med. Congress of Phila.* in 1876, 893, Phila. 1877. Also printed separately, Phila. 1877.)
10. Eserine and Pilocarpine in the Treatment of Eye Disease. (*Bost. Med. and Surg. Journal*, March, 1878; XCVIII. 327. Also printed separately, Cambridge, 1878.)
11. Extirpation of the Ossified Choroid without Enucleation of the Eyeball. (*Trans. Am. Ophthalmological Soc.*, July, 1878.)
12. The Diagnosis and Treatment of Eye Diseases. Boston, 1881. 80. *In press.*

Robert Wheeler Willson.

Assistant in the Observatory, 1874-1875; Tutor in Physics, 1875 - .

1. Observations on Juno. (*Astron. Nachrichten*, No. 2051; LXXXVI. 174. Kiel, 1875.)
2. Report of R. W. Willson. (*Report of the Total Solar Eclipse, at Fort Worth, Texas*, July 29, 1878, 37. Cambridge, 1879. 40.)

Joseph Winlock.

Director of the Observatory, Phillips Professor of Astronomy, and Professor of Geodesy, 1866-1875.

1. Observations of the Total Solar Eclipse of Aug. 7, 1869, at Shelbyville, Kentucky, and at other Stations in the Vicinity. (*Report of the Superintendent of the United States Coast Survey for 1869*, 124. Washington, 1872.)
2. Observations of the Total Solar Eclipse of Dec. 22, 1870, made at Jerez de la Frontera. (*Report of the Superintendent of the United States Coast Survey for 1870*, 134. Washington, 1873.)
3. Results in Right Ascension of 156 Fundamental Stars, observed with the Meridian Circle of Harvard College Observatory. [W. A. Rogers and A. MacConnel, observers.] (*Astron. Nachrichten*, No. 1909; LXXX. 193. Altona, 1873.)
4. Right Ascensions of Fundamental Stars observed with the Meridian Circle of Harvard College Observatory. [W. A. Rogers, observer.] (*Astron. Nachrichten*, No. 1947; LXXXII. 33. Kiel, 1873.)

** See also the Annals of the Astronomical Observatory.

Justin Winsor.

Librarian, 1877 - .

1. The Readers' Handbook of the American Revolution, 1761-1783. Boston, [1879] 1880. 160.
2. The College Library. (*Circulars of Information of the Bureau of Education*, No. 1. 1880. 7. Washington, 1880.)
3. Editorship of The Memorial History of Boston. I. 1880. 40. The chapters on "The Earliest Maps of Massachusetts Bay and Boston Harbor," 37, and "The Literature of the Colonial Period," 453, were written by the Editor. *Vols. II, III, and IV. in Press.*

** Also, addresses, as President of the American Library Association, printed with other papers in the *Library Journal*; and papers, chiefly of a bibliographical character, in current periodicals. See also *Library Bulletin and Bibliographical Contributions*.

Edward Stickney Wood.

Assistant Professor of Chemistry, 1871-1876; Professor of Chemistry, 1876 - .

1. Semi-Annual Reports on Recent Progress in Medical Chemistry. (*Boston Med. and Surg. Journal*, Jan. 1873; LXXXVIII. 14, 32. July, 1873; LXXXIX. 6, 33. Jan. 1874; XC. 7, 36. July, 1874; XCI. 9, 33. Jan. 1875; XCII. 9, 39. July, 1875; XCIII. 12, 43. Jan. 1876; XCV. 11, 37. July, 1876; XCVI. 8, 35. Jan. 1877; XCVI. 11, 46. July, 1877; XCVII. 13, 40. Feb. 1878; XCVIII. 170.)

2. (With Prof. H. P. Bowditch, M.D., and C. W. Swan, M.D.) Report [to the City of Boston] of the Medical Commission upon the Sanitary Qualities of the Sudbury, Mystic, Shawshine, and Charles River Waters. (*Boston City Document*, No. 102, 1874. Boston, 1875.)
3. (With C. F. Choate and J. F. Osgood.) Report of the Gas Commissioners, in relation to the Supply of Gas to the City of Boston. (*Boston City Document*, No. 91, 1876. Boston, 1877.)
4. Illuminating Gas in its Relations to Health. Paper read at the Annual Meeting of the American Public Health Association, Oct. 5, 1876. (*Reports and Papers of Am. Public Health Assoc.*, III. 62.)
5. The Relation which Chemistry bears to Forensic Medicine. Paper read before the Mass. Medico-Legal Soc., June 11, 1878. (*Trans. Mass. Medico-Legal Soc.*, I. No. 1. Also, *Bost. Med. and Surg. Journal*, Aug. 1878; XCIX. 139.)
6. A Guide to the Qualitative and Quantitative Analysis of the Urine. By C. Neubauer and J. Vogel. Translated by E. G. Cutler, M. D. Revised by E. S. Wood. New York, 1879.
7. Poisoning by the Heavy Metals and their Salts, including Arsenic and Phosphorus. By Prof. B. Naunyn. Translation. (*Ziemssen's Cyclopaedia of the Practice of Medicine*, XVII. 557.)
8. Two Cases of Cystinuria. Paper read before the Boston Soc. for Med. Observation, March 3, 1879. (*Boston Med. and Surg. Journal*, July, 1879; CI. 4.)
9. The Character and Purity (Present and Future) of the Water supplied to the City of Cambridge. (*Report of the Special Committee on the Water Supply of the City*, 21. Appendix I. Cambridge, 1879. The greater part of this, under title of "The Water Supply of Cambridge," is in *First Ann. Rep. of Mass. State Bd. of Health, Lunacy, and Charity*, 1879. *Supplement*, 67. Boston, 1880.)

Chauncey Wright.

University Lecturer on Psychology, 1870-71; *Instructor in Physics*, 1874-1875.

1. Limits of Natural Selection. (*North Am. Review*, Oct. 1870; CXI. 282.)
2. Genesis of Species. (Id. July, 1871; CXIII. 63. Also reprinted, with additions, under title: Darwinism; Being an Examination of St. George Mivart's Genesis of Species. London, 1871. pp. 46.)
3. The Uses and Origin of the Arrangement of Leaves in Plants. Presented Oct. 10, 1871. (*Mem. Am. Acad. of Arts and Sciences*; New Series, IX. 379.)
4. Lewes's Problems of Life and Mind. (*Nation*, June 11, 1874, No. 467; XVIII. 381.)
5. [Books relating to the Theory of Evolution.] (Id. Feb. 18, 1875, No. 503; XX. 113.)
6. McCosh on Tyndall. (Id. April 22, 1875, No. 512; XX. 277.)
7. Speculative Dynamics. (Id. June 3, 1875, No. 518; XX. 379.)
8. Todhunter's Conflict of Studies. (*North Am. Review*, July, 1875; CXXI. 86.)

9. German Darwinism. (*Nation*, Sept. 9, 1875, No. 532; XXI. 168.)

. All the above are reprinted in *The Philosophical Discussions of Chauncey Wright*. Edited by C. E. Norton. Boston, 1877. 80.

Jeffries Wyman.

Hersey Professor of Anatomy, 1847-1874.

1. Experiments with Vibrating Cilia. (*Am. Naturalist*, Oct. 1871; V. 611.)
2. Description of the Brain of the Opossum. May, 1872. (*Mem. Bost. Soc. of Nat. Hist.*, I. 151.)
3. Remarks on Cannibalism among the American Aborigines. (*Proc. Bost. Soc. Nat. Hist.*, May, 1874; XVII. 14.)
4. Human Remains in the Shell Heaps of the St. John's River, East Florida. Cannibalism. (*Am. Nat.*, July, 1874; VIII. 403.)
5. Fresh-Water Shell Mounds of the St. John's River, Florida. (*Memoirs Peabody Acad. Science*, I. No. 4. Salem, 1875.)

. See also the Reports of the Peabody Museum and MSS. quoted in *American Naturalist*, iii. 621 and vi. 16.

Edward James Young.

Hancock Professor of Hebrew and other Oriental Languages, and Dexter Lecturer on Biblical Literature, 1869-1880.

1. The Influence of the Living Christ. A Discourse delivered at the Installation of Rev. E. C. Butler as Pastor of the First Parish in Beverly, Mass., March 7, 1872. Boston, 1872. 80.
2. The Claims of the Christian Ministry upon Young Men, and its Attractions. An Address delivered in Hollis Street Church, Boston, March 1, 1874. Cambridge, 1874. 120.
3. Heinrich Ewald. A Paper read before the American Oriental Society, May 19, 1875. (*Christian Register*, Boston, May 22, 1875.)
4. "Appleton Chapel." (*Harvard Book*, I. 122. Cambridge, 1875.)
5. "College Prayers." (Id. II. 120.)
6. Oration at the Bi-Centennial Celebration at Sudbury, Mass. Boston, 1876. pp. 44.
7. On the Sinaitic Inscriptions. A Paper read before the American Oriental Society, May, 1876. (*Journ. Am. Oriental Soc.*, X. cxxix.)
8. The Value of the Study of Hebrew for a Minister. (*Unitarian Review*, May, 1879; XI. 479. Also printed separately, Boston, 1879. pp. 28.)
9. Subjects for Master's Degree in Harvard College, 1655-1791. Translated and arranged, with an Introduction and Notes. Reprinted from the Proceedings of the Mass. Historical Society, June, 1880.

Ernest Young.

Instructor in History and Roman Law, 1874-1878.

1. The Anglo-Saxon Family Law. (*Essays in Anglo-Saxon Law*, 121. Boston, 1876. 80.)

Library of Harvard University.

BIBLIOGRAPHICAL CONTRIBUTIONS.

EDITED BY JUSTIN WINSOR,
LIBRARIAN.

No. 13.



A BIBLIOGRAPHY OF FOSSIL INSECTS.

By SAMUEL H. SCUDDER.

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1882.

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1. EDWARD S. HOLDEN. Index-Catalogue of Books and Memoirs on the Transits of Mercury.
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- *7. JAMES M. PEIRCE. References in Analytic Geometry.
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11. SAMUEL H. SCUDDER. The Entomological Libraries of the United States.
12. A LIST OF THE PUBLICATIONS of Harvard University and its Officers, 1870-1880.
13. SAMUEL H. SCUDDER. A Bibliography of Fossil Insects.
14. WILLIAM H. TILLINGHAST. Notes on the Historical Hydrography of the Handkerchief Shoal in the Bahamas.
15. J. D. WHITNEY. List of American Authors in Geology and Palæontology.
- *16. RICHARD BLISS, JR. Classified Index to the Maps in Petermann's Geographische Mittheilungen. 1855-1881.
- *17. JUSTIN WINSOR. A List of the most useful Reference Books.

A BIBLIOGRAPHY OF FOSSIL INSECTS.

BY SAMUEL H. SCÜDDER.

Up to the present time, scarcely any formal attempt has been made to collect separately the titles of papers on fossil insects. Several authors, in general essays on this branch of palaeontology, have, indeed, referred to the older or the principal works upon the subject, as Giebel in his *Insecten der vorwelt*, Oustalet in his first essay on the fossil insects of France, and lately, ever, have been particularly, Goss in his review of our knowledge of fossil insects. The principal sources of our information, however, have been portions of the scientific bibliographies of zoology; thus Carus and Engelmann, in 1861, in their *Bibliotheca zoologica* (II. 1508-10), give two pages and a half to this subject with about sixty titles; while Hagen, a year or two later, by means of the subject-index to his *Bibliotheca entomologica* refers to about one hundred and fifty articles, scattered throughout his work.

The following list was originally made for private use, to accompany a slip catalogue of the described fossil insects of the world, prepared for comparing the ancient insect fauna with the modern, and that of the Old World with that of the New. Thinking it of more than private value, the entries have been accompanied by brief descriptive notes, and are here published as a tolerably complete list, and one that will at least suggest the extent and to some degree the nature of the literature upon this subject. Although more than double the extent of Hagen's list (which did not include Arachnida and Myriapoda) this is no proof of an increased development of or interest in this branch of scientific work within the past fifteen years; indeed, it is doubtful whether there is now as much activity as in the previous fifteen years when the works of Heer were opening the wealth of material at hand. The multiplication of periodical literature of late years has brought in its train a host of minor papers, many of them wholly popular in character, which, while they multiply titles, do not materially add to our actual knowledge. All of these the careful bibliographer must notice, and these have unfortunately enhanced the labor of preparing, and increased the extent of this list, without corresponding advantage.

All papers here quoted have been personally examined unless noted to the contrary; and, with rare exceptions, will be found in the libraries of this vicinity. Although not properly belonging here, I have added references to articles treating of insects in copal. The arrangement under the authors is chronological.

Additions to this bibliography would be very welcome, and will be inserted in an appendix.

Agassiz, L. See **Buckland, W.**
Allen, Grant. The colour sense; its origin and development. An essay in comparative psychology. 80. London. 1879. pp. 12, 282.

In a chapter (4) on "insects and flowers," he discusses briefly the antiquity of insects and their relation to the earliest entomophilous flowers. See especially pp. 38, 42-46, 66-69, 78-80.

American naturalist, Editors of. Fossil insects. *Amer. nat.* 2: 163. fig. 1, 2. 80. Salem. 1868. Note (not original) on *Xenoneura* and *Palaeocampa*.

Andrae, Karl Justus. Beiträge zur kenntnisse der fossilen flora Siebenbürgens und des Banates. Mit zwölf tafeln. pp. 1-48. pl. 1-12. *Abhandl. k. k. geol. reichsanst. Wien.* bd. 2. abth. 3. no. 4. 40. Wien. 1855.

Figures a *Formica*, pl. 4, fig. 6, 6a, 8b, and *Chrysopa*, pl. 5, fig. 3, 3a, from Thalheim, with mention of them on p. 26.—The *Formica*, like the *Chrysopa*, is said to come from Thalheim, but the locality of the plant on the same slab with the former is given as Sotzka!

Andrae, K. J. Eine alge und eine insectenflügel aus der steinkohlenformation Belgiens. *Sitzungsber. niederrhein. gesellsch. Bonn.* 1876, 27-28. 80. Bonn. 1877.

Mere mention of a Blattina.

Andree, Richard. Die versteinierungen der steinkohlenformation von Stradonitz in Böhmen. *Neues Jahrb. f. mineral. geol. und pal.* 1864. 2^{oo} heft. s. 160-176. taf. iv. 80. Stuttgart. 1864.

Describes and figures *Acridites priscus*.

Anon. Gab es schon während der steinkohlenzeit schmetterlinge? *Kosmos*, bd. 5, s. 218-19. 80. Leipzig. 1879.

An account of the discussion of this subject in *Nature* and elsewhere, by Wallace, MacLachlan, de Borre, etc.

d'Archiac [Vicomte] et de Verneuil, Édouard. On the fossils of the older deposits in the rhenish provinces; preceded by a general survey of the fauna of the palaeozoic rocks, and followed by a

tabular list of the organic remains of the devonian system in Europe. *Trans. geol. soc. Lond.* (2). vol. 6, pp. 303-410. 40. London. 1842.

Contains, p. 330, a section (ix.) of a single paragraph on what was then known of palaeozoic insects.

[**d'Argenville, Ant. Jos. Desallier.**] L'histoire naturelle éclaircie dans une de ses parties principales, l'oryctologie, qui traite des terres, des pierres, des métaux, des minéraux et autres fossiles, ouvrage dans lequel on trouve une nouvelle méthode latine et française de les diviser, et une notice critique des principaux ouvrages qui ont paru sur ces matières. Enrichi de figures dessinées d'après nature. Par M. *** des Sociétés royales des sciences de Londres et de Montpellier. 40. Paris. 1755. pp. (8) 16, 562. pl. 26.

Mentions some fossil insects on pp. 33, 353; and on p. 360, pl. 21, refers to what is called a "chenille" and "deux papillons."

Assmann, August. Palaeontologie. Beiträge zur insekten-fauna der vorwelt.—Einleitung. I. Beitrag. Die fossilen insekten des tertiären (miocenen) thonlagers von Schosnitz bei Kanth in Schlesien. II. Beitrag. Fossile insekten aus der tertiären (oligocenen) braunkohle von Naumburg am Bober. Mit einer taf. abbildungen. 80. Breslau. 1869. pp. 1-62. Taf. 1. *Zeitschr. f. entom. des vereins f. schles. insektenk.* (2) 1.

The introduction, of thirty pages, gives a general review of fossil insects. The first paper contains an account of the geology and palaeontology of Schosnitz with full descriptions of ten species of insects. The second describes two Coleoptera. I have only seen the separate edition.

Audouin, Victor. Sur une empreinte d'aile d'un insecte névroptère inconnu . . . trouvé en Angleterre à Colebrookedale dans le Shropshire . . . dans un terrain houiller. *Ann. soc. ent. France.* vol. 2., *bull. ent.* pp. 7-8. 80. Paris. 1833.

The first mention of a palaeozoic insect. It is said to have been shown by Audouin at the meeting of the Association of German naturalists at Bonn in 1835, but I have been unable to examine the report of that meeting. Also mentioned by Boué in his *Resumé des progrès de la géologie*, 1833, p. 146, and in the *Journal. d. géol.* iii. 105 (neither seen).

Aymard, Auguste. La découverte d'un assez grand nombre d'insectes dans les marnes subordonnées à la formation gypseuse près du Puy. *Bull. soc. géol. France*. vol. 6. pp. 235-36. 8°. Paris. 1835.

A brief announcement with a consideration of its geological import.

Ballenstedt [Johannes Georg Justus]. Entdeckung von Insekten-nestern der urwelt im Bernstein. *Archiv f. d. neuest. entd. a. d. urw.*, bd. 5. s. 28-40. 8°. Quedlinburg und Leipzig. 1823.

A very full abstract of Troost's paper, with comments.

Bar [Constant]. Sur la Breyeria borinensis. *Comptes rendus soc. ent. Belg.* (2) xxviii: 6. 8°. Bruxelles. 1876.

Ann. soc. ent. Belg. 19, *comptes rendus*, 53-54. 8°. Bruxelles. 1876.

Considers Breyeria an hionopterous insect, and maintains that the lack of flowers in carboniferous times is not proof of the absence of Lepidoptera.

Barthélemy-Lapommeraye, A. Carabe d'Agassiz, Carabus Agassizi. 8°. pp. 4. Marseille. [1850.]

Extract and notice by G(uerin) M(eneville) under same title. *Rev. et mag. zool.* (2). vol. 3, pp. 293-94. 8°. Paris. 1851.

Bassi, Carlo Agostino. Memorie intorno allo studio degl' insetti fossile in genere. *Atti reum. scienn. ital.* 3: 400-01. 4°. Firenze. 1841.

An account of three or four insects from Sinigaglia in the Milan museum, to only one of which a name—*Cleonolithus antiquus*—is given. None of them are properly described.

An abstract entitled Ueber die Wichtigkeit des Studiums der fossilen Knochen [Kerföen?] für die Geologie will be found in Oken's *Isis*, 1843, pp. 418-19. 4°. Leipzig. 1843.

Beck [H. ?]. Notes on the geology of Denmark. *Proc. geol. soc. Lond.* 2: 217-20. 8°. London. 1836.

Lond. Edinb. phil. mag. (3) 8: 553-56. 8°. London. 1836.

Contains a paragraph relating to tertiary deposits of Jutland "older than the erratic blocks" and containing "the elytra of beetles, the cases of the larvae of Phryganæa, and a hymenopterous insect which the author has called *Cleptis Steenstrupii*."

Beckles, S. H. On the lowest strata of the cliffs at Hastings. *Quart. Journ. geol. soc. Lond.* vol. 12, *proc. pp.* 288-92; with a section. 8°. London. 1856.

Merely mentions (p. 291) the discovery of insects in the upper members of the series, referred to the wealden.

van Beneden, P. J., et **Coemans**, Eug. Un insecte et un gastéropode pulmoné du terrain houiller. 8°. pp. 20. pl. *Bull. acad. roy. Belg.* (2) 23, iv. 384-401, pl. 8°. Bruxelles. 1867.

Describes in detail and figure *Omalia macroptera*, which the authors consider allied to Hemerobius.

Berendt, Georg Carl. Die Insekten im Bernstein. Ein Beitrag zur thiergeschichte der vorwelt. 1. heft. 4°. Danzig. 1830. pp. (2) 39.

Only pp. 29-39 deal with the insects themselves, and the remarks are of a very general nature, but give the first published information concerning amber insects based on considerable collections. Hagen (Bibl. ent. 1, 42) records plates to a second part.

Berendt, G. C. Mémoire pour servir à l'histoire des blattes antédiluviennes traduit de l'allemand par M. Heller. *Ann. soc. ent. France*, 5: 539-46. pl. 16. 8°. Paris. 1836.

Descriptions and figures of the species found in amber.

Berendt, G. C. Die im Bernstein befindlichen organischen Reste der Vorwelt, gesammelt in Verbindung mit mehreren bearbeitet und herausgegeben von Dr. Georg Carl Berendt. 2 v. fo. Berlin. 1845-56. The covers entitled Organische Reste im Bernstein.

Contains four parts; the first volume has the plants by Goeppert and Berendt (with general chapters on amber by Berendt),

and the Crustacea, Myriapoda, Arachnida and Aptera by Koch and Berendt; the second volume, the Hemiptera and Orthoptera by Germar and Berendt, and the Neuroptera by Pictet and Hagen.

Berendt, G. C. See also **Germar**, E. F., and **Berendt**, G. C.; **Goeppert**, H. R., and **Berendt**, G. C.; **Koch**, C. L., and **Berendt**, G. C.; and **Pictet-Baraban**, F. J., and **Hagen**, H. A.

Beringer, J. D. A. Lithographiæ wirceburgensis, ducentis lapidum figuratorum, a potiori insectiformium, prodigiosis imaginibus exornatae specimen primum, quod in dissertatione inaugurali physico-historica, cum connexis corollariis medicis, auctoritate et consensu inelyctæ facultatis medicæ, in alma eoo-francica wirceburgensium universitate, preside . . . D. Joanne Bartholomæo Adamo Beringer . . . exantlatis de more rigidis examinibus pro suprema doctoratus medici laurea, annexisque privilegiis ritè consequendis, publicæ literaturum disquisitioni submittit Georgius Ludovicus Hueber. . . In consueto auditorio medico. Anno 1726. fo. Wirceburgi. pp. (12) 96, tab. 21.

Nearly half of the plates contain grossly exaggerated, worthless figures of insects, the text for which is crowded on p. 94 by mere descriptive titles to the plates. The specimens from which the plates were drawn are said to have been fabrications.

Bertkau, Ph. Einige spinnen und ein myriapode aus der braunkohle von Rott. *Verhandl. naturh. verein preuss. Rheinl. u. Westf.* (4), 5: 346-360. taf. 5. 8°. Bonn. 1878.

A careful description of eight species, of which six are new.

Bertrand, Élie. Dictionnaire universel des fossiles propres, et des fossiles accidentels, contenant une description des terres, des sables, des sels, des soufres, des bitumens, des pierres simples & composées, communes & précieuses, transparentes & opaques, amorphes & figurées, des minéraux, des métaux, des pétrifications du règne animal, & du règne végétal, &c. avec des recherches sur la formation de ces fossiles, sur leur origine, leur usages &c. 2 v. 8°. La Haye. 1763.

Under the heading Entomolithes, vol. 1, pp. 201-02, is a very brief account of those then known, with bibliographical references.

Binfield, William R. and Henry. On the occurrence of fossil insects in the wealden strata of the Sussex coast. *Quart. Journ. geol. soc. Lond.*, vol. 10, *proc. pp.* 171-76. 8°. London. 1854.

The insects are mentioned only by suborders, and the paper is mostly made up of geological sections of the places where insects were found.

Binney, E. W. On two remarkable fossil insects from the lower coal measures near Huddersfield. *Proc. lit. phil. soc. Manch.*, 6: 59. 8°. Manchester. 1867.

Geol. mag., 4: 132. 8°. London. 1867.

Notifies the occurrence of *Xylobius sigillariæ* and of a supposed coleopterous larva.

Blake, J. F. See **Tate**, R., and **Blake**, J. F.

Blanford, W. T. See **Medlicott**, H. B., and **Blanford**, W. T.

Bloch, D. Beytrag zur naturgeschichte des kopals. Berlin. 16°. 1776. *Beschäft. berl. gesellsch. naturf. fr.* 2: 91-196, tab. iii-v.

Contains, pp. 164-190, Verzeichniss einiger merkwürdigen Insekten, welche in kopal eingeschlossen, with rude figures.

Bock, F. S. Versuch einer kurzen naturgeschichte des preussischen Bernsteins und einer neuen wahrscheinlichen erklärung seines Ursprunges. 16°. Königsberg. 1767. pp. 146.

Gives on pp. 138-146 a list of some insects and other animals found in amber.

Boisduval, Jean Alphonse. Compte verbal du rapport . . . sur un dessin . . . qui représente une empreinte de lépidoptère fossile, trouvée dans les environs d'Aix. *Ann. soc. ent. France. vol. 8, bull. ent. pp. 11-12.* 80. Paris. 1839.

Compares the butterfly to the modern genus *Cylo*. Reproduced in Scudder's *Fossil butterflies*, p. 15.

Boisduval, J. A. Rapport sur une empreinte de lépidoptère trouvée dans les marnes des environs d'Aix en Provence, et communiquée par M. de Saporta. *Ann. soc. ent. France. vol. 9. pp. 371-74. pl. 8.* 80. Paris. 1840.

Description of *Cylo sepulta*. Reproduced in Scudder's *Fossil butterflies*, pp. 15-17.

Boisduval, J. A. Quelques mots de réponse à M. Alex. Lefebvre sur les observations relatives à la *Cylo sepulta*, et à laquelle il donne pour épigraphe ces mots: *Stupete gerites!* *Ann. soc. ent. France (2). vol. 9, bull. ent. pp. 96-98.* 80. Paris. 1851.

Rejoinder maintaining his own position and ridiculing that of Lefebvre. Reproduced in Scudder's *Fossil butterflies*, p. 26.

Bolton, John. On a deposit with insects, leaves, etc., near Ulverston. *Quart. Journ. geol. soc. Lond. vol. 18. proc. 274-77. figs. 1-2 (sections).* 80. London. 1862.

Mentions only a few insects determined in a general way by Mr. Henry Tibbats Staiton.

de Bonnac. Sur l'ambre jaune. *Hist. acad. roy. sc. 1705: 41-44.* 40. Paris. 1730.

Concludes amber to be formed on the land from its enclosure of terrestrial animals, "comme des mouches, des fourmis, etc."

de Born, Ignace. Catalogue méthodique et raisonné de la collection des fossiles de M^{lle} Éléonore de Raab. 2 v. 80. Vienne, 1790. tom. 1, pp. (48), 502. tom. 2, pp. (8) 499 (66), tab. 1.

Contains: Pétrifications d'insectes-entomolithes I., pp. 464-466; meothons four insects.

de Borre, A. Preudhomme. Note sur des empreintes d'insectes fossiles, découvertes dans les schistes houillers des environs de Mons. *Comptes-rendus soc. ent. Belg.*, (2) xii: 4-7 (and discussion on same by Breyer and others, 7-8). 80. Bruxelles. 1875.

Describes and discusses the affinities of two fossil insects which he considers orthopteroïdes; and of a third which he compares to a carboniferous Termes. Breyer considers one of the first wings as lepidopteroïdes.

de Borre, A. P. Complément de la note sur des empreintes d'insectes fossiles. *Comptes-rendus soc. ent. Belg.*, (2) xiii: 7-11 (and discussion on same by Fologne, Lafontaine, Plateau, Breyer, and de Sélys, 11-12). 80. Bruxelles. 1875.

Now maintains the correctness of Breyer's belief that one of the wings is lepidopteroïdes, or prolepidopteroïdes, and changes the generic name from *Pachytyplopsis*, formerly given, to *Breyeria*. Fologne and Lafontaine contend that there are two overlapping wings. Plateau at first thought it the tip of a coleopteroïdes wing of gigantic size, but withdrew his opinion. Breyer maintained the latter view impossible, and de Sélys thought it rash to refer a reticulated wing to the Lepidoptera. These two papers, without the discussion, were republished separately as follows:—

de Borre, A. P. Notes sur des empreintes d'insectes fossiles découvertes dans les schistes houillers des environs de Mons. 80. Bruxelles. 1875. pp. 1-10, pl. v-vi. *Ann. soc. ent. Belg.* 18, pp. 39-42, 56-60, pl. v-vi. 80. Bruxelles. 1875.

Premier note, pp. 1-6 (39-42). Seconde note, pp. 6-10 (56-60). Second note reprinted as follows:—

Empreintes d'insectes fossiles découvertes dans les schistes des environs de Mons. *Journ. zool.*, vol. 4, pp. 291-97. 80. Paris. 1875.

Unaccompanied by the plate. Gervais adds brief notes.

de Borre, A. P. Sur trois nouveaux insectes fossiles. *Comptes-rendus soc. ent. Belg.* (2) xviii., 17. 80. Bruxelles. 1875.

Ann. soc. ent. Belg. 18, *comptes-rendus* 115. 80. Bruxelles. 1875.

Notice of the discovery of two Neuroptera from the same beds as *Breyeria* and of a supposed dipteran from the jurassic beds of Luxembourg; M. de Borre informs me that closer examination proves the latter to be an homopteron.

de Borre, A. P. [Acknowledgment of objections to the lepidopteroïdes character of *Breyeria* from Hagen, Heer, Giard, and Scudder.] *Comptes-rendus soc. ent. Belg.* [2] xxii: 5-6 (followed by discussion of the subject by Saporta and Weyers, pp. 6-7). 80. Bruxelles. 1876.

Ann. soc. ent. Belg. 19: 3-4. 80. Bruxelles. 1876.

de Borre, A. P. Note sur le *Breyeria borinensis*. pp. 6. 80. Bruxelles. 1879. *Comptes-rendus soc. ent. Belg.* (2) lxx: 7-12. 80. Bruxelles. 1879.

Maintains *Breyeria* to be an ancestral stock of the type of Lepidoptera.

de Borre, A. P. See also Giard, A.; and van Volxem, C.

Bosc, Louis [Augustin Guillaume]. Note sur une fosse remarquable de la montagne de Saint-Géraud-le-Puy, entre Moulins et Roanne, département de l'Allier, appelé l'industrie tubuleuse. *Journ. d. mines*, vol. 17, pp. 397-400, pl. 7. 80. an xiii.

The first notice of the remarkable caddis-fly cases of Auvergne, forming the beds of so-called industrial limestone.

Bouvé, T. T. See Deane, J.

Brauer, Friedrich. Verzeichniss der bis jetzt bekannten neuropteren im sinne Linné's. pp. 90 [n. d.] *Verhandl. k. k. zool.-bot. gesellsch. Wien. bd.* 18: 359-416, 711-42. 80. Wien. 1868.

Includes the fossil genera and species, and contains, p. 738 (86), a list of the fossil Libellulina.

Brauer, F. Betrachtungen über die verwandlung der insekten im sinne der ascendenztheorie. 80. Wien. 1869. pp. 21, pl. *Verhandl. k. k. zool.-bot. gesellsch. Wien.* 19: 299-319, pl. 10. 80. Wien. 1869.

Contains, p. 19 [317], a slight reference to the structure of Eugeoron.

[**Braun**, F.] Verzeichniss der in der kreis-naturalien sammlung zu Bayreuth befindlichen potrefacten. 40. Leipzig. 1840. pp. viii, 118, karte, tabelle, taf. 22.

Div. 6, Insecta, p. 71, mentions three insects from the *braun-kohl*.

Breyer. See de Borre, A. P.

Breyer, Johann Philipp. Observatio de succinea gleba, plantae cujusdam folio impraegnata, rarissima. *Phil. trans.* 34, 154-56 pl., fig. 2. 40. London. 1728.

Mentions a spider and a fly in amber, with minute figure of latter.

Brodie, Peter Bellinger. A notice on the discovery of the remains of insects, and a new genus of isopodous Crustacea belonging to the family Cymothoidae in the wealden formation in the Vale of Wardour, Wilts. *Proc. geol. soc. Lond.*, 3: 134-35. 80. London. 1839.

Lond. Edinb. phil. mag. (3) 15: 534-36. 80.

London. 1839.

A section of the locality with a general account of its fossil remains, those of the insects belonging to several orders. An extended notice will be found in the *Neues Jahrb. f. Mineral.* 1843: 238-39. P. 80. Stuttgart. 1843.

Brodie, P. B. On the discovery of insects in the lower beds of lias of Gloucestershire. *Rep. brit. assoc. adv. sc.* 1842: notices, §8. 80. London. 1843.

General notice of the finding of a few insect remains, mostly coleopteroïdes, near Cheltenham.

Brodie, P. B. Notice on the discovery of insects in the wealden of the Vale of Aylesbury, Bucks, with some observations on the distribution of these and other fossils in the Vale of Wardour, Wiltshire. *Ann. mag. nat. hist.* 11 : 480-82. 8°. London. 1843.
Sufficiently described by the title.

Brodie, P. B. Notice on the discovery of insects in the wealden in the Vale of Aylesbury, Bucks, with some additional observations on the wider distribution of these and other fossils in the Vale of Wardour, Wiltshire. *Lond. Edinb. Dubl. phil. mag.* (3) 23 : 512-14. 8°. London. 1843.

Proc. geol. soc. Lond. 4 : 780-82. 8°. London. 1843.

Same as the preceding.

Brodie, P. B. Notice on the discovery of the remains of insects in the lias of Gloucestershire, with some remarks on the lower members of this formation. *Lond. Edinb. Dubl. phil. mag.* (3) 23 : 529-31. 8°. London. 1843.

Ann. mag. nat. hist. 11 : 509-11. 8°. London. 1843.

Proc. geol. soc. Lond. 4 : 14-16. 8°. London. 1842-43.

Athenaeum, 1843 : 40-41. 4°. London. 1843.

Notice of the discovery and geological position of insects near Gloucester and Cheltenham, at Wainlock Cliff and Westbury; an extension of the paper mentioned from the British association report.

ABSTRACT: Sur des débris d'insectes du lias du Gloucestershire. *L'institut* 1843, i. 47. 4°. Paris. 1843.

ABSTRACT: Notiz über die entdeckung von insectenresten im lias von Gloucestershire mit einigen bemerkungen über die untern glieder dieser formation. *Neues Jahrb. f. mineral.* 1844 : 127-28. 8°. Stuttgart. 1844.

Brodie, P. B. A history of the fossil insects in the secondary rocks of England. Accompanied by a particular account of the strata in which they occur, and of the circumstances connected with their preservation. 8°. London. 1845. pp. (18) 130, pl. 11.

The introductory observations, explanation of plates, notes, and many names, are by Westwood. This, the only separate work on fossil insects published in England, is still the chief source of our too inexact knowledge of the liassic and other secondary insects of that country. The body of the work, Mr. Brodie's part, is divided into four chapters, of which the first deals with the wealden, the second with the oolite, the third with the lias, and the fourth with miscellaneous matter, including insects of continental strata.

Brodie, P. B. On the insect-limestone and its associate beds. *Murchison, Outl. geol. Cheltenham.* 2d ed. 51-53. 8°. London. 1845.

Simply a discussion of the mode of deposition of these rocks.

Brodie, P. B. Notice of the existence of purbeck strata with remains of insects and other fossils, at Swindon, Wilts. *Quart. journ. geol. soc. Lond.*, 3, *proc.* 53-54. 8°. London. 1847.

A geological paper, giving no further account of the insects than appears in the title.

Brodie, P. B. Notice on the discovery of a dragon fly and a new species of *Leptolepis* in the upper lias near Cheltenham, with a few remarks on that formation in Gloucestershire. 8°. pp. 4, pl. *Quart. journ. geol. soc. Lond.*, 5, *proc.* 31-37. *pl.* 2. 8°. London. 1848.

The description (2 pp.) is by Westwood, but the name, *Libellula (Heterophlebia) dislocata*, is by Brodie. The rest of the paper is on the geology of the district. I have not seen the separate paper.

Brodie, P. B. Notice of the occurrence of an elytron of a coleopterous insect in the Kimmeridge

clay at Ringstead Bay, Dorsetshire. *Quart. journ. geol. soc. Lond.*, 9, *proc.* 51-52. 8°. London. 1853.

No further details of the insect than are given in the title.

Brodie, P. B. On the occurrence of the remains of insects in the tertiary clays of Dorsetshire. *Quart. journ. geol. soc. Lond.* 9, *proc.* 53-54. 8°. London. 1853.

Refers to a few Carculionidae and Buprestidae found at Corfe, afterwards figured by Westwood.

Brodie, P. B. On the insect beds in the purbeck formation of Dorset and Wilts; and a notice of the occurrence of a neuropterous insect in the Stonesfield slate of Gloucestershire. *Quart. journ. geol. soc. Lond.*, 9, *proc.* 344. 8°. London. 1853.

Published only by title; probably same as next.

Brodie, P. B. On the insect beds of the purbeck formation in Wiltshire and Dorsetshire. *Quart. journ. geol. soc. Lond.*, 10, *proc.* 475-82. 8°. London. 1854.

Mostly occupied with geological sections, but p. 481 gives an account, in general terms, of the condition and character of the insects discovered, most of which were Coleoptera.

Brodie, P. B. Fossil insects in the carboniferous rocks. *Geol. mag.* 4 : 285-86. 8°. London. 1867.

A brief enumeration of the different forms known to the author.

Brodie, P. B. A sketch of the lias generally in England, and of the insect and saurian beds. *Proc. Warw. nat. arch. field club*, 1868. *pp.* 1-24. 8°. Warwick. 1868.

Mostly occupied with the geology of the insect-beds, but with occasional reference (especially on pp. 18-19) to the insects contained in them.

Brodie, P. B. Exploration of the leaf-beds in the lower Bagshot series of Hants and Dorset. *Geol. mag.*, *vol.* 7, *p.* 141. 8°. London. 1870.

Suggestions for further search.

Brodie, P. B. The distribution and correlation of fossil insects, and the supposed occurrence of Lepidoptera and Arachnidae in british and foreign strata, chiefly in the secondary rocks, . . . being a paper read at the annual meeting of the Warwickshire natural history and archaeological society, held at the museum, Warwick, April 18th, 1873. 8°. Warwick. [n. d.] pp. 19. *Ann. rep. Warw. nat. hist. arch. soc.* 37 : 12-28. 8°. Warwick. 1873.

A very general account of fossil insects, followed (pp. 12-19) by a Tabular view of british and foreign fossil insects chiefly in the secondary rocks, omitting the foreign tertiaries. Separate paper only seen.

Brodie, P. B. The distribution and correlation of fossil insects, and the supposed occurrence of Lepidoptera and Arachnidae in british and foreign strata, chiefly in the secondary rocks, . . . being a paper read at the annual meeting of the Warwickshire naturalists' and archaeologists' field club, held at the museum, Warwick, February 24, 1874. 8°. Warwick. [n. d.] pp. 23. *Ann. rep. Warw. nat. arch. field club.* 1874. *pp.* 16-38.

An enlargement of the last, principally in the Tabular view. Like the preceding it is much disfigured by typographical errors.

Brodie, P. B. Notes on a railway-section of the lower lias and rhaetics between Stratford-on-Avon and Fenny Compton, on the occurrence of the rhaetics near Kineton, and the insect beds near Knowle, in Warwickshire, and on the recent discovery of the rhaetics near Leicester. *Quart. journ. geol. soc. Lond.* *vol.* 30, *i.* *pp.* 746-49. 8°. London. 1874.

Simply notices the discovery of certain insects at Copt Heath near Knowle.

Brodie, P. B. The lower lias at Eatington and Kineton, and on the rhaetics in that neighbourhood, and their further extension in Leicestershire, Nottinghamshire, Lincolnshire, Yorkshire, and Cumber-

land; . . . being a paper read at the annual meeting of the Warwickshire natural history and archaeological society, held at the museum, Warwick, April 2nd, 1875. 80. Warwick. [n. d.] pp. 14. *Ann. rep. Warw. nat. hist. arch. soc.*

Principally occupied with geology, but with a few special references to insects, particularly on p. 10; separate only seen.

Brodie, P. B. Fossil Lepidoptera. *Ann. rep. proc. Warw. nat. arch. field club*, 1877. pp. 3-9. 80. Warwick. 1877.

Not seen. The author states that it is based on Scudder's work on the subject and contains nothing original.

Brodie, P. B. The nature, origin, and geological history of amber, with an account of the fossils which it contains. 80. [Warwick.] n. d. pp. 15. *Ann. rep. proc. Warw. nat. arch. field club*, 1878?

Notices of the insect enclosures are mostly confined to pp. 8-12, and are of a general nature; separate only seen.

Brodie, P. B. On the discovery of a large and varied series of fossil insects and other associated fossils in the eocene (tertiary) strata of the Isle of Wight. 80. Warwick. 1878. pp. 12. *Ann. rep. proc. Warw. nat. arch. field club*, 1878. 80. Warwick. 1878.

A general popular account; only the separate paper seen.

Brodie, P. B. See also **Strickland, H. E.**

Bromell, Magnus. Lithographiæ svecanæ continuatio. Specimen II. — Sectio II. De animalibus fossilibus, illorumque variis partibus petrificatis. — Caput primum. De lapidibus insectiferis & tubulis vermicularibus. — Articulus primum. De lapidibus insectiferis scanicis & gothicis. *Acta liter. Socieæ, vol. 2, pp. 493-97, 524-33. figs. 40.* Upsaliæ et Stockholmiae. 1729.

A general notice of the discovery of insects, "Scarabæi" and "Papilionæ", in rocks of Karabylonga, Gårstad, Knista, Olstorp, and Aklinge in Westrogothia.

Brongniart, Alexandre. Sur les terrains qui paraissent avoir été formés sous l'eau douce. *Ann. mus. hist. nat.*, 15: 357-405, pl. 23-24. 40. Paris. 1810.

Discusses *Indusia tubulata* on pp. 392-93.

Brongniart, A. Succin. *Dict. sc. nat.*, 51: 229-40. 80. Strasbourg et Paris. 1827.

Mentions in general terms (p. 233-34) the insects most commonly found in amber.

Brongniart, Charles. Observations sur un insecte fossile de la famille des diptères trouvé à Chadrat (Auvergne), (*Protomyia Oustaleti*). *Ann. sc. géol.*, 7, art. no. 4, pp. 2. 80. Paris. 1876.

Brongniart, C. Note sur une nouvelle espèce de diptère fossile du genre *Protomyia* (*P. Oustaleti*), trouvée à Chadrat (Auvergne). *Bull. soc. géol. France*, (3), vol. 4, pp. 459-60, pl. 13, figs. 5-8. 80. Paris. 1876.

Same as the preceding.

Brongniart, C. Rapport sur un morceau de bois fossile trouvé dans le gault, terrain crétacé de Lottinghem (Pas-de-Calais). *Ann. soc. ent. France*, (5), vol. 6, *bull. ent.*, 117-18. 80. Paris. 1876.

Refers the borer reported by Lartigue (q. v.) to *Bostrychus*.

Brongniart, C. Note sur des perforations observées dans deux morceaux de bois fossile. *Ann. soc. ent. France*, (5), 7: 215-20, pl. 7, ii. 80. Paris. 1877.

Describes the borings of a xylophagid allied to *Hylesinns*. Noticed by Dr. Hector George in the Feuilleton of *Le constitutionnel* for 21 Nov., 1877. See also Girard, M.

Brongniart, C. Note sur une Aranéide fossile des terrains tertiaires d'Aix (Provence). *Ann. soc.*

ent. France, (5), 7: 221-24, pl. 7, i. 80. Paris. 1877.

Describes *Attoides cresiformis*. Noticed by Dr. Hector George in the Feuilleton of *Le constitutionnel* for 21 Nov., 1877. See also Girard, M.

Brongniart, C. Note rectificative sur les espèces de bibionides fossiles du genre *Plecia*. *Bull. séances soc. ent. France*, 1878, vi: 60-61. 80. Paris. 1878. *Ann. soc. ent. France*, (5), vol. 8, *bull.*, pp. 47-48. 80. Paris. 1878.

The fossil Diptera described as *Protomyia* and *Bibicopsis* belong to the modern genus *Plecia*.

Brongniart, C. Note rectificative sur quelques diptères tertiaires et en particulier sur un diptère des marnes tertiaires (miocène inférieur) de Chadrat (Auvergne) la *Protomyia Oustaleti* qui devra s'appeler *Plecia Oustaleti*. 80. Lille. 1878. t. p. pp. 73-81. *Bull. scient. dép. nord*, (2), ann. 1, pp. 73-81. 80. Lille. 1878.

Discusses in full the species of fossil Bibionidae described as *Protomyia* and *Bibicopsis*, and concludes that all belong to *Plecia*; redescribes *Plecia Oustaleti*; an enlargement of the preceding paper.

Brongniart, C. Note sur la découverte d'un orthoptère cœur de la famille des phasmiens (*Protphasma Dumasii*) dans les terrains supra-houillers de Commentry (Allier). *Bull. séances soc. ent. France*, 1878, vii: 69-70. 80. Paris. 1878.

Same with omission of the word "Note" in the title. *Ann. soc. ent. France*, (5), vol. 8, *bull.*, pp. 57-58. 80. Paris. 1878.

Same as the last. 80. Bruxelles. 1878. pp. 4. *Comptes rendus soc. ent. Belg.*, (2), 47: 9-12. 80. Bruxelles. 1878.

Brongniart, C. Note sur un nouveau genre d'orthoptère fossile de la famille des phasmiens provenant des terrains supra-houillers de Commentry (Allier) (*Protphasma Dumasii*). 80. Paris. 1878. pp. 9, pl. *Ann. sc. nat.*, (6), *zool.*, tom. 7, art. 4, pp. 8, pl. 6. 80. Paris. 1878.

Text substantially the same as the preceding. Noticed by Dr. Hector George in the Feuilleton of *Le constitutionnel*, Nov. 6, 1878; and also read before the *Association scientifique de France* in 1878. See also Girard, M. A discovery carrying this group of Orthoptera back at once from the tertiary to the permian.

Brongniart, Charles. On a new genus of orthopterous insects of the family Phasmiidae (*Protphasma Dumasii*) from the upper coal measures of Commentry, dept. Allier, France. 80. London. 1879. pp. 6 pl. — The cover entitled New fossil insect from the coal measures. *Geol. mag.*, n. s., Dec. 2, vol. 6, pp. 97-102, pl. 4. 80. London. 1879.

Translation of the preceding.

Bronn, Heinrich Georg. Lethaea geognostica, oder Abbildungen und beschreibungen der für die gebirgs-formationen bezeichnendsten versteinungen mit lithographirten 47 quart., 1 folio-tafel und 2 tabellen. 2 v. 80. Stuttgart. 1835-38. i. pp. 6, 768; ii. pp. [4] 769-1346 [4].

Contains references to fossil insects on pp. 210, 481, 794, 809-14, 1159-61. A second edition, which I have not seen, was published in 1838. The third was by Bronn, H. G., and Roemer, F., q. v.

Bronn, H. G. Index palaeontologicus oder Uebersicht der bis jetzt bekannten fossilen organismen, unter mitwirkung der . . . H. P. Göppert und Herm. v. Mayer, bearbeitet von Dr. H. G. Bronn. Erste abtheilung. A. Nomenclator palaeontologicus, in alphabetischer ordnung. pp. 6, 84, 1382. 80. Stuttgart. 1848. Zweite abtheilung. B. Enumerator palaeontologicus; systematische zusammenstellung und geologische entwickelungs-gesetze der organischen reiche. t. p. pp. 980. 80. Stuttgart. 1849.

B. (pp. 585-632) refers to the geological distribution of insects. This also appeared as Bd. 3 of the author's *Handbuch der Geschichte der Natur*. 8°. Stuttgart. 1841-49.

Bronn, H. G. Essai d'une réponse à la question de prix proposée en 1850 pour le concours de 1853, et puis remise pour celui de 1856, savoir: Étudier les lois de la distribution des corps organisés fossiles dans les différents terrains sédimentaires, suivant l'ordre de leur superposition. Discuter la question de leur apparition ou de leur disparition successive ou simultanée. Rechercher la nature des rapports qui existent entre l'état actuel du règne organique et ses états antérieurs. *Suppl. comptes rend. acad. sc.*, t. 2, pp. 377-918. 4°. Paris. 1858.

Bronn, H. G. Untersuchungen über die entwickelungs-gesetze der organischen welt während der bildungszeit unserer erd-oberfläche. Eine von der französischen akademie im jahre 1857 gekrönte preisschrift, mit ihrer erlaubniss deutsch herausgegeben. 8°. Stuttgart. 1858. pp. 10, 502.

Translation of the preceding. The insects will be found treated in the original edition of this justly celebrated essay on pp. 438-53, 636-38, 810-12, 865-69.

Bronn, Heinrich Georg und Roemer, Ferdinand. H. G. Bronn's Lethæa geognostica oder Abbildung und beschreibung der für die gebirgsformationen bezeichnendsten versteinungen. Dritte stark vermehrte auflage. Mit einem atlas von 124 tafeln. 3 v. 8°. Stuttgart. 1851-56. Atlas fol.

Bd. 1. pp. 12, 204, 6, 788-1851-56; bd. 2. pp. 8, 124, 4, 570, 4, 412-1851-52; bd. 3, pp. 8, 1130-1853-56. Atlas, title, schema, pl. 1-63-1850-56. Insects are discussed or tabulated, and typical species described, none of them new, in I. i, 42-54; ii. 13, 75, 679-84; II. iv, 32, 429-30; III. vi, 52, 86, 622-50, and figured pl. 9³, 41¹², 42¹.

Brown, John. Insects and seeds in peat at Stanway. *Geologist*, 1858 : 254. 8°. London. 1858.

Notes the occurrence of elytra.

Brullé, Aug. Sur le gisement des insectes fossiles, et sur les secours que l'étude de ces animaux peut fournir à la géologie. Thèse pour le doctorat ès-sciences. 4°. Paris. 1839. pp. [4] 30.

A studied review of the knowledge at that time, from which the conclusion is drawn that nearly all fossil insects are generically, and part of them specifically, identical with living types, and that in these particulars they agree with other fossil animals.

Brydone, Patrick. A tour through Sicily and Malta, in a series of letters to William Beckford, Esq., of Somerly in Suffolk. A new edition. 2 vols. 8°. London. 1776. i. map, pp. 16, 373; ii. pp. 11, 355.

Vol. 1, pp. 282-84 contains a short account of the amber found at the mouth of the Giaretta containing "flies and other insects." The first edition was published in 1774; another in 1775; another with precisely the same pagination as in the one quoted, in 1790; another in 1806; a French translation in 1775 at Paris, and in 1819 at Franfort; and a German translation in 1777 at Leipzig.

von Buch, Leopold. See **Erichson, W. F.**

Buckland, William. Geology and mineralogy considered with reference to natural theology. [Bridgewater treatise.] 2 vols. 8°. London, 1837. Vol. 1, pp. 16, 619; vol. 2, pp. 7, 111, pl. 1-69 (= 88 pl.).

Buckland, W. The same. 2 vols. 8°. Philadelphia. 1837. Vol. 1, pp. 443; vol. 2, pp. 131, pl. as in above.

Buckland, W. Geologie und mineralogie in beziehung zur natürlichen theologie. . . Aus dem englischen, nach der zweiten ausgabe des originals, uebersetzt und mit anmerkungen und zusetzen versehen von Dr. Louis Agassiz. 2 vols. 8°. Bern, Chur und Leipzig. 1838.

Vol. i. [text]; t. p., pp. 26, 508; vol. ii. [plates]; t. p., pp. 4, pl. 1-69 [= 88 pl.] and from 1-10 pp. of explanation of each. Pl.

46' and 46'' are devoted to fossil insects, mostly arachnids, copied from Corda. The others are insects from Coalbrook-Dale, Stonefield, and Aix. The brief text concerning them is found in the London edition at l. 466-13, and ii. 74-79; in the American edition at l. 306-11 and ii. 74-79; in the German at pp. 453-63. The additions by Agassiz consist of a couple of unimportant notes. A new edition by Frank Buckland (London, 1838) I have not seen, and the London edition examined is the second, apparently agreeing in every respect with the first, published in 1836.

Buckland, W. On the discovery of a fossil wing of a neuropterous insect in the Stonesfield slate. *Proc. geol. soc. Lond.*, 2 : 688. 8°. London. 1838. *Lond. Edinb. Dubl. phil. mag.*, [3], 13 : 388. 8°. London. 1838.

Brief notice of *Hemerobioides giganteus*.

Buckland, W. Découverte d'une aile fossile d'insecte névroptère dans les schistes de Stonesfield. *Rev. zool.*, 1839, 29. 8°. Paris. 1839.

Abstract of the above, by Malepeyre.

Buckland, W. Notices relative to palaeontology . . . from his anniversary address to the geological society of London. *Ann. mag. nat. hist.*, 9 : 156-67. 8°. London. 1842.

Address in full. *Proc. geol. soc. Lond.*, 3 : 469-540. 8°. London. 1841.

Contains fossil arachnids (with opinions of Gray (J. E.) quoted), pp. 162-63 (pp. 504-05). Fossil insects, p. 163 (p. 505.) Notices the arachnids described by Corda as well as specimens from Solenhofen and Aix; and the discovery of various insects the previous year from the wealden, Stonesfield slate, and Staffordshire coal, together with Hymenoptera from coal near Glasgow.

Buckman, James. On the occurrence of the remains of insects in the upper lias of the county of Gloucester. *Proc. geol. soc. Lond.*, vol. 4, pp. 211-12. 8°. London. 1843.

Lond. Edinb. Dubl. phil. mag., vol. 24, p. 377. 8°. London. 1844.

Notices *Aeschna Brodiei*, without description, and the occurrence of two Coleoptera and a Tipula at Dumbleton.

Buckman, J. Remarks on *Libellula Brodiei* (Buckman), a fossil insect from the upper lias of Dumbleton, Gloucestershire. *Ann. mag. nat. hist.*, [2], 12 : 436-38. 8°. London. 1853.

Claims *Aeschna Brodiei*, *Libellula (Heterophlobia) dislocata*, and *Agriion Buckmani* to be one insect which should bear the name in title.

Buckman, J. See also **Murchison, R. I.**

Burmeister, Hermann. Kerfe der Urwelt. *Burm., Handb. d. ent.*, vol. 1, pp. 632-40. 8°. Berlin. 1832.

A brief résumé of what was known at that time, with some original statements concerning the insects observed by him in amber.

Burmeister, H. Insects of a former world. *Burm.-Schuck., Man. ent.*, pp. 574-81. 8°. London. 1836.

Translation of the above.

Burmeister, H. Geschichte der schöpfung. Eine darstellung des entwicklungsanges der erde und ihre bewohner. 8°. Leipzig. 1843. pp. 6, 487.

Refers to insects on pp. 430, 445-46. The five subsequent editions not examined.

Burmeister, H. See also **Hünefeld.**

Butler, Arthur Gardiner. Catalogue of the diurnal lepidoptera of the family Satyridae in the collection of the British museum. 8°. London. 1868. pp. 6, 211, pl. 5.

Under the heading Fossil species, pp. 189-90, are given brief notes on *Neorinops sepulta*, to show that it "is exactly intermediate in character between . . . Neorina, Antirrhoea, and Anchiphlebia."

Butler, A. G. Catalogue of diurnal lepidoptera described by Fabricius in the collection of the British museum. 8°. London. 1869. pp. 5, 303, pl. 3.

Refers (p. 109) to a possible relationship between *Argynnis Diana* and the fossil *Vanessa Photo*.

Butler, A. G. On fossil butterflies. 4^o. [London. 1873.] pp. 126-28. pl. 48. *Bull., lepid. exot., part xv, pp. 126-28, pl. 48.* 4^o. London. 1873.

Description and illustration of three species, including for the first time *Palaeontina oolitica*. The figure of the latter was copied into the *Graphic* of Feb. 22, 1873, with a brief account of it, under the title, "The oldest fossil butterfly in the world."

Butler, A. G. Notes on the impression of *Palaeontina oolitica* in the Jermyn street museum. The cover entitled: On a fossil butterfly in the Museum of practical geology, Jermyn street). 8^o. [London. 1874.] pp. 4, pl. *Geol. mag., dec. 2, vol. 1, pp. 446-49, pl. 19.* 8^o. London. 1874.

A rejoinder to Scudder, and in favor of the lepidopterous character of *Palaeontina*.

Buttner, David Sigismund. Rudera diluvii testes, i. e. zeichen und zeugen der sündfluth; in ansehung des itzigen zustandes unserer erd- und wasser-kugel; insonderheit der darinnen vielfältig auch zeither in querförmigen revier unterschiedlich angetroffenen; ehemahls verschwemten thiere und gewächse; bey dem lichte natürlicher weissheit betrachtet; und nebst vielen abbildungen zum druck gegeben. 4^o. Leipzig. 1710. front., t. p., pl., pp. (6), 314, (20), pl. 30.

Figures a few insects on plates 16 and 23, briefly referred to on page 226.

Charpentier, Touissant von. Libellulinae europaeae descriptae ac depictae cum tab. 48 coloratis. 4^o. Lipsiae. 1840. t.p., pp. 181, pl. 48.

Under the section De libellulinis pterefactis, pp. 170-73, pl. 48, the author gives a résumé of what was then known on the subject, and describes and figures some new forms.

Charpentier, T. von. Beschreibung eines Libellulinites aus Kroatien. *Neues jahrb. f. miner.,* 1841, 332-337, pl. 1. 8^o. Stuttgart. 1841.

Description, figure, and discussion of the affinities of a beautifully preserved dragon-fly's wing from Radoboj.

Charpentier, T. von. Ueber einige fossile insecten aus Radoboj in Croatien. *Nova acta acad. Leop.-Carol.,* 20, 1: 399-410, tab. 21-23. 4^o. Vratislaviae, etc. 1843.

Descriptions and (poor) illustrations of seven tertiary insects.

Coemans, Eugène. See **Van Beneden, P. J. et Coemans, E.**

Conybeare, William Daniel and Phillips, William. Outlines of the geology of England and Wales, with an introductory compendium of the general principles of that science and comparative views of the structure of foreign countries; illustrated by a coloured map and sections, &c. Part 1. [all publ.] 8^o. London. 1822. pp. (8), 61, (1), 470, map, tables, pl. of sections.

Brief mention of coleopterous remains in the calcareous slate of Stonesfield (oolite) will be found on pp. 207-209.

Cope, Edward Drinker. Report on the vertebrate paleontology of Colorado. *Ann. rep. U. S. geol. surv. terr.,* 1873, 427-533, pl. 1-8. 8^o. Washington. 1874.

On pp. 439-40 he refers to the horizon of the insect-bearing "Greco-river" shales, and records "insects and their larvae" — some of the latter "nearly an inch long, and others minute and in prodigious numbers" — from Fontanelle Creek, and the "east side of Green River above the mouth of Labarge Creek."

Cope, E. D. A contribution to the knowledge of the ichthyological fauna of the Green River shales. *Bull. U. S. geol. surv. terr.,* 3: 807-819. 8^o. Washington. 1877.

He announces on p. 807 the discovery of fossil insects "near the mouth of Labarge Creek," Wyoming Territory, and at another locality "nearer the main line of the Wasatch Mountains."

Coquand, Henri. Sur la découverte faite dans les plâtrières d'Aix d'une grenouille fossile. *Bull. soc. géol. France,* [2], 2: 383-386. 8^o. Paris. 1845.

Announces also the occurrence of insects in the same locality, and reviews what is known of them from the papers of Boisduval and Curtis.

A notice, not seen, will be found in Frierie's *Neue notizen*, 37: 33-36. 4^o. Erfurt. 1846.

Conda, August Karl Joseph. Ueber den in der steinkohlenformation bei Chomle gefundenen fossile scorpion. *Verhandl. gesellsch. wasserl. mus. Böhm., vers.* 13: 35-43, pl., figs. 1-14. 8^o. Prag. 1835.

Contains a. Urtheil der commission bei der naturforscherversammlung in Stuttgart, pp. 35-36. b. Mikroskopische untersuchung, abbildung und beschreibung von Conda, pp. 36-43, with a detailed description and discussion of the affinities of the insect.

Conda, A. K. J. Ueber eine fossile gattung der afterscorpione. *Verhandl. gesellsch. wasserl. mus. Böhm., vers.* 17: 14-18, pl., figs. 1-9. 8^o. Prag. 1839.

Description of *Microlobis sternbergii*. An abstract will be found in the *Neues jahrb. f. miner.,* 1841, 854-55. 8^o. Stuttgart. 1841.

Cornelius, C. Ueber termiten. *Verh. naturh. ver. preuss. Rheinl. Westph.,* 14: 20-44. 8^o. Bonn. 1857.

Contains, pp. 40-44, a letter from Dr. Hagen, criticising the treatment of the fossil Termites in Goldenberg's paper in *Palaeontographica*.

Costa, Achille. See **Hope, F. W.**

Cotta, Bernhard. Ueber Julus terrestris, als jugendliche versteinering. *Neues jahrb. f. miner.* 1833, 392-394, pl. 5. 8^o. Stuttgart. 1833.

Description and figure of this species as found fossil near Dresden in kalksteinergänge in gneiss. Münster, loc. cit., p. 68 speaks of these as Lituiten-artige röhre.

Croizet, (l'abbé). Mémoire sur des débris fossiles de l'Auvergne. Analyse. *Bull. soc. géol. France,* 4: 22-26. 8^o. Paris. 1833.

Refers briefly, p. 25, to the *Indusia tubulata* of Auvergne.

Croizet, (l'abbé). Indications des fossiles de diverses natures qu'on trouve dans la montagne de Gergovie, avec les couches qui leur servent de gisement. *Bull. soc. géol. France,* 7: 104-106. 8^o. Paris. 1836.

Merely mentions the occurrence of insects at Merdogne, p. 106. Noticed in *Neues jahrb. mineral.,* 1836, 626-27. 8^o. Stuttgart. 1826.

Croizet, (l'abbé) et Jobert (ainé). Recherches sur les ossemens fossiles du département du Puy-de-Dôme. 4^o. Paris. 1828. pp. (8), 224, (2), map, sect. 8, pl. 48 in several series.

Refers, p. 25, to the occurrence of *Indusia tubulata* in the calcareous marls of the Auvergne tertiary.

Cronstedt, (Axel Fredric). An essay towards a system of mineralogy. Translated from the original Swedish with notes by Gustav von Engestrom. To which is added a Treatise on the pocket laboratory, containing an easy method, used by the author, for trying mineral bodies, written by the translator. The whole revised and corrected, with some additional notes, by Samuel Mendes Da Costa. 16^o. London. 1780. t. p., pp. 36, 329.

Refers, p. 264, to fossil insects found in the alum slate at Andrarum in Skone; I also find p. 237 of the "old ed." referred to, but have neither been able to examine it nor the original Swedish.

Curtis, John. Observations upon a collection of fossil insects discovered near Aix in Provence, in the summer of 1828, by R. J. Murchison and Charles Lyell. Murch.-Lyell, *Tert. fresh water form. Aix.* pp. 9-13, pl. 6. 8^o. Edinburgh. 1829.

Edinb. new phil. journ., 7, pp. 293-297, pl. 6. 80. Edinburgh. 1829.

A list, with occasional brief descriptions, of forty-seven species; the first important notice of the Aix insects.

Curtis, J. See also **Lyell, C.**; **Murchison, R. I.**; and **Murchison, R. I.**, and **Lyell, C.**

Czech, Carl. Ueber die entwicklung des insectentypus in den geologischen perioden. *Programm realschule Düsseldorf*, 1858, 1-14. 160. Düsseldorf. 1858.

Mainly devoted to showing that the insects of the carboniferous period were not less completely developed than the existing forms.

Dale, James Charles. Notes on some libellulæ. *Ann. mag. nat. hist.*, 9: 257-58. 80. London. 1842.

Suggests that "*Aeshna liassina*" Strickland is nearer *Cordulegaster* or *Petalura*.

Dalman, Johann Wilhelm. Om insekter inneslutne i copal; jemte beskrifning på några deribland förekommande nya släkten och arter. 80. Stockholm. 1826. *Kongl. vetensk.-acad. handl.*, 1825, 375-411, tab. 5. 80. Stockholm. 1826.

Describes several new genera and species of insects found in African gum copal. Separate copy not seen. See also **Lucaas, H.**

ABSTRACT: Des insectes renfermés dans les résines de copal. *Ferr., Bull. sc. nat.*, 14: 287-290. 80. Paris. 1828.

A very full abstract including descriptions of the species, signed D. (Desmarest?)

ABSTRACT: On insects enclosed in copal. *Quart. journ. sc. lit. arts*, 1828, 227-228. 80. London. 1828.

Briefer abstract of same.

Dana, James Dwight. Fossil larve in the Connecticut River sandstone. *Amer. journ. sc. arts*, [2], 33: 451-452. 80. New Haven. 1862.

Quotes an opinion from Dr. J. L. Leconte that Hitchcock's figure of *Mormonocoides articulatus* resembles the larva of an epherider; and the consequent wish of Dr. E. Hitchcock that the name should be changed to *Palephemera mediaeva*.

Dana, J. D. On fossil insects from the carboniferous formation in Illinois. *Amer. journ. sc. arts*, (2), 37: 34-35, figs. 1-2 in text. 80. New Haven. 1864.

Description and figures of two neuropterous insects, the first recorded from the American coal formations.

Dana, J. D. Manual of geology; treating of the principles of the science with special reference to American geological history. Illustrated by over eleven hundred and fifty figures in the text, twelve plates, and a chart of the world. Third edition. 80. New York. 1880. pp. 14, 912, (4), pl. 12, map.

Insects mentioned on pp. 273, 274, 334-336, 342, 343, 350, 351, 388, 411, 416; many figures of American, especially palaeozoic, species given. The first edition (1862) gave much less space to insects; the second (1874) does not differ from the third, as regards the insects.

Dana, J. D. See also **Deane, J.**

Daudet, Henri. Chenilles fossiles. *Petites nouv. entom.*, 2, no. 145, p. 25. 40. Paris. 1876.

First mention of the discovery of caterpillars at Aix.

Daudet, H. Description d'une chenille fossile trouvée dans le calcaire d'Aix (Provence). *Rev. mag. zool.*, [3], 4: 415-24, pl. 17. 80. Paris. 1876.

Describes *Satyriles incertus*, the first fossil caterpillar of a butterfly known, and discusses its probable affinities.

Davila [Pedro Franco]. Catalogue systématique et raisonné des curiosités de la nature et de l'art qui composent le cabinet de M. Davila. Tome 3. 80. Paris. 1767. pp. 6, 290, pl. 8 [in 1st part].

On pp. 223-24. Pétrifications animales de la septième classe. Entomolites.

Dawson, John William. On a terrestrial mollusk, a chilognathous myriapod and some new species of reptiles from the coal formation of Nova Scotia. *Quart. journ. geol. soc. Lond.*, 16, i: 268-77, figs. 1-29. 80. London. 1859.

Describes and figures *Xylobius sigillariae*.

Dawson, J. W. The air breathers of the coal period in Nova Scotia. *Can. nat. geol.*, 8: 1-12, 81-92, 159-75, 268-95, pl. 1-6. 80. Montreal. 1863.

Same as the following.

Dawson, J. W. Air breathers of the coal period: a descriptive account of the remains of land animals found in the coal formation of Nova Scotia, with remarks on their bearing on theories of the formation of coal and of the origin of species, with illustrations. 80. Montreal. 1863. t. p., front., pp. 4, 81, pl. 6, and a plate of photogr.

Contains, section xii, Invertebrate air breathers, pp. 62-63, and pl. 6 (pars) which describes *Xylobius sigillariae*. See also p. 67.

Dawson, J. W. On the conditions of the deposition of coal, more especially as illustrated by the coal-formation of Nova Scotia and New Brunswick. *Quart. journ. geol. soc. Lond.*, 22: 95-169, pl. 5-12. 80. London. 1866.

Merely refers (p. 145) to the occurrence of a myriapod and one insect at the Joggins.

Dawson, J. W. On some remains of palaeozoic insects recently discovered in Nova Scotia and New Brunswick. *Can. nat.*, [n. s.], 3: 202-206, 5 woodc. in text. 80. Montreal. 1867.

Geol. mag., 4: 385-88, pl. 17, figs. 1-5. 80. London. 1867.

Haplophiebum Barnesii and four of the Devonian insects are described and figured for the first time by Scudder.

Dawson, J. W. Acadian geology. The geological structure, organic remains, and mineral resources of Nova Scotia, New Brunswick, and Prince Edward Island. 2d edition, revised and enlarged, with a geological map and numerous illustrations. 80. London. 1868. pp. 27, 694, pl. (9), map, figs. 231, (1) in text.

Pages 386-88, 524-26, figs. 153, 181-84, contain descriptions and illustrations of carboniferous and devonian insects by Scudder. There is also a Note on the myriapods of the coal formation on pp. 495-96, by the same.

Dawson, J. W. Note on some new animal remains from the carboniferous and devonian of Canada. *Quart. journ. geol. soc. Lond.*, 26, i: 166. 80. London. 1870.

Notices the occurrence of Blattariæ from the Nova Scotia coal measures.

Dawson, J. W. Supplement to the second edition of Acadian geology, containing additional facts as to the geological structure, fossil remains, and mineral resources of Nova Scotia, New Brunswick, and Prince Edward Island. 80. London. 1878. pp. 102.

This supplement bound with reissue of 2d ed. forms 3d ed. Mentions and figures, pp. 53, 55, 56, some carboniferous insects and myriapods which had been described by Scudder since the previous edition.

Deane, James. On the sandstone fossils of Connecticut River. *Journ. acad. nat. sc. Philad.*, [2], 3: 173-78, pl. 18-20. 40. Philadelphia. 1856.

On pl. 19 are figured tracks of what the author presumes are articulated animals, in which he is supported by the opinions, quoted on p. 177, of Professors Leidy, Wyman, and Dana, the latter believing them probably crustacean. Some are possibly the tracks of insects.

Deane, J. Ichtnographs from the sandstone of Connecticut River. 40. Boston. 1861. pp. 61, pl. 46.

Contains introduction, pp. 3-4, by A. A. Gould; biographical notice (of Dr. Deane) by H. I. Bowditch, pp. 5-14; a memoir upon the fossil footmarks and other impressions of the Connecticut River sandstone, by James Deane (compiled by Thomas Tracy Bouvé), with a note by the compiler, p. 17, and the memoir, pp. 19-32; description of the plates, pp. 33-61 (by Mr. Bouvé).

References to insect tracks are made on p. 26, and in the descriptions of pl. 40-42 (pp. 57-58).

Defrance, Jacques Louis Martin. Indusie. *Dict. sc. nat.*, 23: 411-12. 8°. Paris. 1822.

Notice of the indusial limestone of Auvergne, and the fossil pyriganid cases of which it is composed.

Defrance, J. L. M. Insectes (foss.). *Dict. sc. nat.*, 23: 524-26. 8°. Paris. 1822.

A review of the older authors, questioning the validity of many of the fossils preserved in the rocks, although accepting those entombed in amber.

Deichmüller. See **Geinitz, H. B.**

Denton, William. On a mineral, resembling albertite, from Colorado. *Proc. Bost. soc. nat. hist.* 10: 305-06. 8°. Boston. 1866.

The first account, p. 306, of fossil insects from the American tertiary; he speaks only of Diptera in a petroleum shale.

Desmarest, Anselme Gaetano. Insectes dans le succin.

Not seen. Cf. Marcel de Serres in *Ann. sc. nat.* 15: 102. 8°. Paris. 1828. Also Guérin in *Dict. class. hist. nat.*, 8: 580. 8°. Paris. 1825.

Desmarest, A. G. See also **Dalman, J. W.**

Desmarest, Eugène. Un morceau de bois fossile . . . qui . . . a présenté des traces qui ont dû être faites par des larves d'insectes. *Ann. soc. ent. France*, [2], 3, *bull.*, pp. 26-27. 8°. Paris. 1845.

Wood bored by larvae of a logicorn beetle.

Desmoulins, Antoine. Découverte d'elytres fossiles de coléoptères. *Ferr., bull. sc. nat.*, 9: 253. 8°. Paris. 1826.

Note upon a locality in the *roche calcaire* of Mont St. Catherine, near Rouen, where elytra with metallic colors had been found.

Dohrn, Anton. Engereon Boeckingi, eine neue insectenform aus dem todtliegenden. 4°. Cassel. 1866. t. p., pp. 8, taf. *Palaeontogr.* 13: 333-40, taf. 41. 8°. Cassel. 1866.

Description and discussion of the affinities of the most remarkable fossil insect yet discovered, considered here to unite the Hemiptera and Neuroptera.

Dohrn, A. Zur kenntniss der insecten in den primärformationen. *Palaeontogr.*, 16: 129-34, taf. 8. 4°. Cassel. 1867.

Further discussion of Engereon and description of two new carboniferous insects; for a number of the earlier insects a new order, Dictyoptera, is for the first time proposed.

Dohrn, A. Engereon Boeckingi und die genealogie der arthropoden. *Stett. entom. zeit.*, 28: 145-153, pl. 1 [41]. 8°. Stettin. 1867.

Fuller discussion of the affinities of Engereon and its bearings on Haeckel's views of the genealogy of insects.

Dohrn, A. Julius Brassi n. sp. ein myriapode aus der steinkohlenformation (with note by Weiss). *Verhandl. naturh. ver. preuss. Rheinl. u. Westph.*, [3], 5: 335-36, pl. 6. 8°. Bonn. 1868.

Description of a species from Lebach with memoranda of previously described species. The note by Weiss is purely geological, on the probable equivalence of the Lebach beds and those yielding *Xylobius*.

Doubleday, Edward, and Westwood, John Obadiah. The genera of diurnal lepidoptera; comprising their generic characters, a notice of their habits and transformations, and a catalogue of the species of each genus; illustrated with 86 plates, by William C. Hewitson. 2 vols. fol. London.

1846-52. Vol. 1, pp. 12, 250, (2), pl. A., 1-30. Vol. 2, t. p., pp. 251-534, pl. 31-80 and suppl. pl.

Several numbers on the plates are repeated, followed by "A." A single fossil species, *Cylo sepulta*, is catalogued on p. 361.

Duisburg, H. von. Zur bernstein-fauna. *Schriften h. phys.-ökon. gesellsch. Königsb.*, 9: 23-28, fig. 4°. Königsberg. 1868.

Discusses the systematic position of the smallest amber insect known, a species of the hymenopterous genus *Mymar*, the expanse of whose wings is scarcely more than half a millimetre.

Duponchel, [Philogène Auguste Joseph]. L'existence d'une impression très-remarquable de lépidoptère fossile, qui a été trouvée dans une plâtrière des environs d'Aix (en Provence). *Ann. soc. ent. France*, 7, *bull. ent.*, pp. 51-52. 8°. Paris. 1838.

First announcement of *Neorinopsis* as a "Nymphale"; reproduced in Scudder's *Fossil butterflies*, p. 15.

Eaton, Alfred Edwin. A monograph on the ephemeridae. *Trans. entom. soc. Lond.*, 1871, 1-164, pl. 1-6. 8°. London. 1871.

Contains a chapter on Fossil ephemeridae, pp. 38-40, and a figure, pl. 1, fig. 10, of a single unnamed species from Solenhofen.

Eaton, A. E. Did flowers exist during the carboniferous epoch? *Nature*, 20: 315. 4°. London. 1879.

Breyeria is an ephemerid.

TRANSLATION. — Der angebliche steinkohlenzeit-schmetterling. *Kosmos*, 5: 461-62. 8°. Leipzig. 1879.

Edwards, William Henry. The butterflies of North America. 4°. New York. 1868-72. pp. (10), 2, (154), pl. (50). Contains also a Synopsis of North American butterflies, pp. 5, 52; and a Supplementary part, pp. (17), pl. (3), and corrected pp. 4-12, 19-20 of synopsis.

p. (64) in pt. 1 (1868) contains a figure of *Mylothrites Pluto*, with suggestions concerning its affinities with the living *Argynnis Diana*.

Ehrenberg, Christian Gottfried. Eine sammlung bei Brandenburg aufgefundenener bernsteinstücke. *Froriep, Neue notizen geb. nat.-heilk.*, 19: 120. 4°. Weimar. 1841.

Refers to insects of the genera *Ceratopogon* and *Gryllus* and to Phygadeia and ants. Notice of same in *Neues jahrb. mineral.*, 1843, 502. 8°. Stuttgart. 1843.

d'Eichwald, Édouard. Sur un terrain jurassique à poissons et insectes d'eau douce de la Sibérie orientale. *Bull. soc. géol. France*, [2], 21: 19-25. 8°. Paris. 1864.

Describes *Ephemeropsis tristetalis*, pp. 21-22. The deposit was thought by Müller to be Eocene.

TRANSLATION. — On a jurassic deposit containing fresh-water fish and insects in Eastern Siberia. *Quart. journ. geol. soc. Lond.*, 20, ii: 21-22 (Abstract by R. T.). 8°. London. 1864.

d'Eichwald, E. Ueber fossile insecten und belemniten. *Amil. ber. vers. deutsch. naturf.*, 39: 169-72. 4°. Geissen. 1865.

Notices, p. 170, the ephemerid larva described by him as *Ephemeropsis*, found in calcareous schists on the banks of the Turga in Siberia.

d'Eichwald, E. *Lethaea rossica*, ou Paléontologie de la Russie décrite et figurée. text, 8°. atlas, 4°. 3 v. Stuttgart. 1853-68. Vol. 1. Ancienne période (in 2 parts), pp. 1-19, 17-26, 1-681, 681-1657 + titles to parts. 1860. Atlas. t. p., pp. 8, tab. 59. 1859. — Vol. 2. Période moyenne (in 2 parts), pp. 1-35, 1-640, 641-1304 + titles to parts. 1865, 1868. Atlas. t. p., tab. 40, expl. of plates opp. plates. 1868. — Vol. 3. Période moderne, pp. 19, 533. 1853. Atlas. t. p., pp. 4, tab. 14, expl. of plates opp. plates. 1853.

The insects are contained in vol. 2, ii., pp. 1191-95, tab. 37 (1868).

Eiroad, M. N., and McIntire, E. S. Report of a geological survey of Orange county. *Ann. rep. geol. surv. Ind.*, 7: 203-239. 8°. Indianapolis. 1876.

The geological position of *Paolia vetusta* is shown on pp. 206, 221.

Erichson, Wilhelm Ferdinand. Zur abbildung der libelle von Solenhofen. Buch, *Jura in Deutschl.* p. 135, pl. (3.) *Abhandl. kön. akad. wiss. Berlin*, 1837, *phys. abhandl.* 4°. Berlin. 1839.

Considers the insect figured by von Buch as partaking of the characters of the genera *Aeschna* and *Libellula*. It was afterwards named *Anax Buchi* by Hagen.

Eser, Anton Friedrich. Das petrefactenlager bei Ober- und Unter-Kirchberg an der Iller im oberamt Laupheim. *Jahresh. ver. vaterl. naturk. Württ.*, 4: 258-267. 8°. Stuttgart. 1849.

Records, pp. 264-265, the discovery of two insects in the miocene fish beds of Unterkirchberg.

Esper, Eugen Johann Christoph. Ad avdiendam orationem pro capessendo munere philosophiae professoris pblici extraordinarii a rectore academiae . . . Christiano Friderico Carolo Alexandro . . . gratiosissime sibi collato d. martii, 1783 recitandam omni qua decet observantia invitatsimlque de animalibus oviparis et sanie frigida praeditis in cataclysmo quem svbiit orbis terrarum plerisque salvissis disserit Evgen. Joann. Christoph. Esper. 4°. Erlangae. 1783. pp. 20.

Refers in a general way to fossil insects, pp. 18-19.

Evans, C. E. Insect remains in the Paludina beds at Peckham (with note concerning them by F. Smith, as recorded in a letter from H. Woodward). *Geologist*, 4: 39-40, fig. 8°. London. 1861.

Figures an elytron and mentions others.

Fairmaire, Léon. See **Millière, P.**

Faujas-de-Saint-Fond, Barthélemy. Nouvelle notice sur les plantes fossiles renfermées dans un schiste marneux des environs de Chaumerac et de Roche Saive, département de l'Ardeche. *Mém. mus. hist. nat.*, 2: 444-459, pl. 15. 4°. Paris. 1815.

Gives the opinion of Latreille on a species of "Polistes" figured on the plate.

Feistmantel, Karl. Die steinkohlen becken in der umgebung von Radnic. *Archiv. naturw. landesdurchf. Böhmen*, bd. 1, sect. 2, at end, pp. 1-120, pl. 1-2. 8°. Prag. 1869.

Gives, p. 66, a brief account of the Chomle scorpions described by Corda, and notices the discovery of *Palaranea borassifolia* without description.

Fischer, Leopold Heinrich. Orthoptera europaea. 4°. Lipsiae. 1853. pp. 20, 454, tab. 18.

Species fossiles, pp. 55-57, contains a bibliography of fossil orthoptera and a list of the species.

Fisher, Osmond. On the brick-pit at Lexden, near Colchester. *Quart. Journ. geol. soc. Lond.*, 19: 393-400. 8°. London. 1863.

Under the head of Organic remains, pp. 398-400, a letter is printed from T. V. Wollastou concerning Coleoptera found in the pit, and deductions are drawn concerning the climate of the time in which they lived.

Fischer von Waldheim, Gotthelf. Prodomus petromatognosiae animalium systematicae continens bibliographiam animalium fossilium. 4°. Mosquae. 1826. *Nouv. mem. soc. imp. nat. Mosc.*, 1: 301-374; 2: 95-277, 447-458. 4°. Moscou. 1829-32.

Notices a few articles on fossil insects, tom. ii. pp. 219-20, 458.

Fischer von Waldheim, G. Bibliographia palaeontologica animalium systematica editio altera aucta. 8°. Mosquae. 1834. t.p., pp. 8, 414.

Contains slight additions to the preceding, with the notices on pp. 305, 372.

Fleck, Hugo. See **Geinitz, H. B., Fleck, H., und Hartig, E.**

Fletcher, John. A dreadful phenomenon described and improved; being a particular account of the sudden stoppage of the river Severn, and of the terrible desolation that happened to the birches between Coalbrook Dale and Buildwas Bridge in Shropshire on Thursday morning, May 27, 1773. *Works of John Fletcher, Vicar of Madeley*, 1: 229-246. 12°. London. [1773?]

On p. 237 "a great many [fossils] were found bearing the impression of a flying insect, not unlike the butterfly into which silk-worms are changed."

Fliche, P. Sur les lignites quaternaires de Jarville près de Nancy. *Comptes rendus*, 80: 1233-1236. 4°. Paris. 1875.

Records, p. 1234, seven kinds of beetles, northern species affecting moist localities, p. 1236.

Fliche, P. Faune et flore des tourbières de la champagne. *Comptes rendus*, 82: 979-982. 4°. Paris. 1876.

Notices the occurrence, p. 979, of four species of beetles from Vannes.

Flogne, Egide. See **de Borre, A. P.**

Fontaine, William Morris and White, J. C. The permian or upper carboniferous flora of West Virginia and S. W. Pennsylvania. 8°. Harrisburg. 1880. *Rep. progr. second geol. surv. Penn.*, PP, pp. 10, 143, map, pl. 38.

Contains a description, p. 104, and a figure, pl. 38, figs. 5, 5^a, of *Gerablattina balteata* by S. H. Scudder.

Fothergill, John. An extract of John Fothergill . . . his essay upon the origin of amber. *Phil. trans.*, 43: 21-25. 4°. London. 1746.

Mentions the occurrence in amber, of "ants, spiders, &c."

Friz, Anton. See **Fritsch, A.**

Fritsch, Anton. Palaeontologische untersuchungen der einzelnen schichten in der böhmischen kreideformation. *Archiv. naturw. landesdurchf. Böhmen*, bd. 1, sect. 2, pp. 181-256, pl. 3. 8°. Prag. 1869.

Refers on p. 187 to the discovery of an elytron of a beetle, and a tube of a phryganid larva in clay-schists at Kounic.

Fritsch, A. Notiz über eine heuschrecke aus der braunkohle von Freudenhain. *Archiv. naturw. landesdurchf. Böhmen*, bd. 1, sect. 2, p. 276, fig. 8°. Prag. 1869.

Describes and figures *Decticus umbraceus*.

Fritsch, A. Fauna der steinkohlen formation Böhmens. *Archiv. naturw. landesdurchf. Böhmen*, bd. 2, abth. 2, th. 1, pp. 1-16; pl. 1-4. 8°. Prag. 1874.

Describes *Palaranea borassifolia* for the first time, and gives new figures and descriptions of four previously known insects, including the famous scorpions described by Corda.

Fritsch, A. Fauna der gaskohle und der kalksteine der permformation Böhmens. Bd. I. heft 1. 4°. Prag. 1879. pp. 92, taf. 12.

Contains pp. 26-31: "Vorläufige uebersicht der in der gaskohle und den kalksteinen der permformation in Böhmen vorgefundenen tierreste." On p. 31 appears a list of five insects, to three of which (myriapoda) names are given, from Nyřan and Kounová.

Fritsch, A. Dva nové řlenovci z útvaru kame-nouhelného v Čechách. *Vesmír*, 9: 241-242, figs. A, B. 4°. Praha. 1880.

Popular account of interesting remains of Ephemeroidea from the carboniferous schists of Votovic.

Fromont, [Louis]. [Empreintes sur une plaque de pierre lithographique.] *Ann. soc. ent. belg.*, 23, *comptes rendus*, p. 35. 80. Bruxelles. 1880.

Mention of impressions considered to resemble the antennae of an insect.

de la Fruglaye. Extrait d'une lettre de M. de la Fruglaye à M. Gillet-Laumont, sur une forêt sous-marine qu'il a découverte près Morlaix (Finistère) en 1811. *Journ. des mines*, 30: 389-91. 80. Paris. 1811.

Notices a fossil chrysalis and a fly.

Gadd, Pehr Adrian. Rön och undersökning, i hvad mån insecter och zoophyer bidraga til stenhårdningar. *Kongl. vet. acad. nya handl.* 8: 98-106. 160. Stockholm. 1787.

Refers pp. 103-104 to "globuli arenacei" which he considers apparently as eggs of insects.

Gaudin, Charles Théophile. See **Heer, O.**

Geikie, James. Prehistoric Europe; a geological sketch. 80. London and Philadelphia. 1881. pp. 18, 592, pl. 5.

Refers to notices of pleistocene insects on pp. 54, 256, 299, 440, 480, 494.

Geinitz, F. Eugen. Versteinerungen aus dem brandschiefer der unteren dyas von Weissig bei Pillnitz in Sachsen. 80. Stuttgart. 1873. pp. 14, pl. *Neues Jahrb. f. Miner.*, 1873: 691-704. *taf.* 3. 80. Stuttgart. 1873.

Describes two Blattinae and a Fulgorina.

Geinitz, F. E. Ueber neue aufschlüsse im brandschiefer der unteren dyas von Weissig bei Pillnitz in Sachsen. 80. Stuttgart. 1875. pp. 14, pl. *Neues Jahrb. f. Miner.*, 1875, 1-14, *taf.* 1. 80. Stuttgart. 1875.

II. Insecten, pp. 4-6; describes four species of Blattina, one of them as new.

Geinitz, F. E. Die blattinen aus der unteren dyas von Weissig bei Pillnitz. 40. Halle. 1880. pp. 22, pl. 1. *Nova acta k. Leop.-carol.-deutschen akad. naturf.*, 41, ii. no. 7. 40. Halle. 1880.

Gives a full description, with figures of the diversity in neuronia in opposite wings, of a species of cockroach, together with criticisms of Scudder's *Palaeozoic cockroaches*, and notes and figures of seven other forms.

Geinitz, F. E. Der jura von Dobbertin in Mecklenburg und seine versteinerungen. *Zeitschr. deutsch. geol. gesellschaft.*, 1880, 510-535, *taf.* 22. 80. Berlin. 1880.

Contains, pp. 519-531, Insectenfauna des dobbertiner unteren jura, in which seventeen insects are described, the greater part of them new. The plate is wholly devoted to insects.

Geinitz, Hanns Bruno. Charakteristik der schichten und petrefacten des sächsischen kreidegebirges. 40. 1839-42. Dresden und Leipzig. pp. 4, 116, 26, pl. A, 24.

Under the head of Insecten, pp. 12-13, *taf.* 3-6, are described and figured borings of insects which the author, supported by Reichenbach and Gernar, refers to Cerambycidae, and describes under the generic appellation Cerambycites. Dr. Geinitz informs me that these belong to *Gastrochaena amphibaena* Goldf., a burrowing mollusk.

Geinitz, H. B. Grundriss der versteinerungskunde. 80. Dresden und Leipzig. 1845 [also dated 1846]. pp. 10, 815, pl. 8, tabelle 1.

B. Arthrozoa, pp. 179-93, pl. 8; gives a brief general systematic account of fossil insects, with descriptions of a few forms and figures of *Aeschna longiolata* and *Oedipoda melanosticta*. The second edition, 80, Leipzig, 1856, not seen; according to Hagen the insects are upon pp. 179-90.

Geinitz, H. B. Die versteinerungen der steinkohlenformation in Sachsen. fo. Leipzig. 1855. pp. 7, 61, pl. 35.

Insecta, pp. 1-2, pl. 8, figs. 1, 4, are represented only by borings of supposed coleoptera.

Geinitz, H. B. Ueber einige seltene versteinerungen aus der unteren dyas und der steinkohlenformation. *Neues Jahrb. f. Miner.*, 1865, 385-394, *taf.* 2, 3.

Describes *Ephemerites Rückerti* and contains a letter upon the same from Dr. Hagen.

Geinitz (H. B.). Paläontologische mittheilungen aus dem mineralogischen museum in Dresden. *Sitzungsber. naturw. gesellschaft. Isis*, 1872, 125-131, *taf.* 1. 80. Dresden. 1872.

Contains, pp. 128-31, *taf.* 1, fig. 4-7: iii. Fossile myriapoden in dem rothliegenden bei Chemnitz. *Palaeojulus dyadicus* is described.

Geinitz, H. B. Ueber *Palaeojulus dyadicus*. *Neues Jahrb. f. Miner.*, 1878, 733. 80. Stuttgart. 1878.

In response to Sterzel, defends the myriapodan character of *Palaeojulus*. The identity of his *Palaeojulus* with *Scolecoperis elegans* Zenk. is acknowledged by the author in 1880. See his Nachtraege zur Dyas, I. *Mitth. k. min. geol. praehist. mus. Dresden. Hft.* 3, 1-4. 40. Cassel. 1880.

Geinitz, H. B. Bericht über die . . . auf dem reviere des carlschachtes der Lugau-Niederwürschnitzer steinkohlenwerke gesammelten steinkohlenpflanzen. *Sitzungsber. naturw. gesellschaft. Isis*, 1879, 7-13, *taf.* 1. 80. Dresden. 1879.

Describes, with Deichmüller, p. 12-13 (two figures in text), *Blattina dresdensis* from the coal-beds near Klein-Opitz, Saxony.

Geinitz, H. B., Fleck, H., und Hartig, E. Die steinkohlen Deutschland's und anderer länder Europa's, ihre natur, lagerungs-verhältnisse, verbreitung, geschichte, statistik und technische verwendung. 2 bd. 40. München. 1865. Bd. 1 (also entitled: Geologie der steinkohlen Deutschland's und anderer länder Europa's, mit hinblick auf ihre technische verwendung; von Geinitz). pp. 10, 420, atlas, ff. 3, pl. 28. Bd. 2 (also entitled: Geschichte, statistik und technik der steinkohlen Deutschland's und anderer länder Europa's; von Fleck u. Hartig). pp. 8, 423, (4), map.

Contains (bd. 1, pp. 146-50) Organische ueberreste der steinkohlenformation des Saarbrückenschen, in which, pp. 149, 150, appear lists of the carboniferous and dyas insects of the basin of the Saar.

Geinitz, H. B. und Gutbier A. von. Die versteinerungen von Obersachsen und der Lausitz. *Gein., Gaa von Sachsen*. 80. Dresden and Leipzig. 1843, pp. 61-142.

Insects at pp. 66, 115, 140; nothing new.

George, Hector. See **Brongnart, C.**

Gernar, Ernst Friedrich. Insecten in bernstein eingeschlossen, beschrieben aus dem academischen mineralien-cabinet zu Halle. *Gernar, Mag. d. entom.* 1: 11-18. 80. Halle, 1813.

Describes seven insects of various suborders.

Gernar, (E. F.). Fauna insectorum Europæ. Fasciculus undecimus. Insectorum protogæe specimen, sistens insecta carbonum fossilium. Long, minute fol. Halæ. 1837. 2 t. p., 1 f., index, pl. 1-25.

Each plate contains one page of descriptive text, unpagged. The insects are all from the tertiaries.

Gernar, E. F. Ueber die versteinerten insecten des juraschiffers von Solenhofen aus der sammlung des grafen zu Münster. Oken, *Isis*. 1837, 421-424. 40. Leipzig. 1837.

Gernar compares the few insects then known from Solenhofen with the tertiary insects, and concludes that: 1^o, none of the jurassic species are identical with the living; 2^o, there are no strikingly strange forms; 3^o, the general facies of the fauna is that of middle Europe and the United States, and indicates a

similar climate; 4, all are wood or leaf eaters, excepting some water beetles and a Geotrupes. This paper appears to have been read before the Jena meeting of the Deutscher naturforscher und aertzte, in 1836, but I have been unable to consult the report of that meeting.

Germar, E. F. Die versteinerten insecten Solenhofens. *Nova acta acad. Leop.-Carol.* 19, i: 187-222, tab. 21-23. 4^{to}. Vratislaviae et Bonnae, 1839.

Describes and rudely figures seventeen insects of various orders, of which eleven are credited to Münster. The descriptions are preceded by some general remarks, historical and otherwise, upon Solenhofen and other fossil insects.

Germar, E. F. Beschreibung einiger neuen fossile insecten (i) in den lithographischen schiefern von Bayern und (ii.) in schieferthon des steinkohlengebirges von Wettin. *Münst., Beitr. z. petref., heft 5, pp. 79-94, taf 9, 13.* 4^o. Bayreuth. 1842.

The first part, pp. 79-90, pl. 9, 13, describes and figures nine insects of various orders from Solenhofen, being the first memoir on the subject. The second, pp. 90-94, pl. 13, describes and figures four cockroaches and one orthoptera from the coal measures. See also Voigt.

Germar, E. F. Ueber einige insecten aus tertiarbildungen. *Zeitschr. deutsch. geol. Gesellsch.*, i: 52-66, taf. 2. 8^o. Berlin. 1849.

Describes and figures six beetles, a fly and a bee from the Rhine and Aix. Briefly noticed in *Neues jahrb. mineral.*, 1851, 759. 8^o. Stuttgart. 1851.

Germar, (E. F.) Die versteineringen des steinkohlengebirges von Wettin und Löbejün in Saalkreise. Also entitled: Petrificata stratorum lithanthracum Wettini et Lobejuni in circulo Salae reperta. fo. 8 hefte [fasc.] Halle, 1844-53. pp. 4, 116, taf. [tab.] 40. 1^{es} heft, pp. i-iv., 1-12, pl. 1-5, 1844; 2^{es} heft, pp. 15-28, pl. 6-10, 1845; 3^{es} heft, pp. 29-40, pl. 11-15, 1845; 4^{es} heft, pp. 41-48, pl. 16-20, 1847; 5^{es} heft, pp. 49-60 (59), pl. 21-25, 1848; 6^{es} heft, pp. 61-80, pl. 26-30, 1849; 7^{es} heft, pp. 81-102, pl. 31-35, 1851; 8^{es} heft, pp. 103-116, pl. 36-40, 1853.

Ueberreste von insecten [Insectorum vestigia], pp. 81-88, taf. 31, 39 (1851), almost entirely devoted to the cockroaches of the palaeozoic rocks, on which it is the first important publication.

Germar, E. F. See also **Geinitz, H. B.**

Germar (E. F.) und Berendt, (G. C.) Die im bernstein befindlichen hemipteren und orthopteren der vorwelt. fo. Berlin. 1856. t. p., pp. 2, 40, pl. 4. **Berendt, Bernst. befindl. org. reste vorw.** 2er bd. ie abth.

Edited, with notes, by Hagen; sixty Hemiptera and eight Orthoptera are described and figured, the latter in part by Pictet.

Gerstaecker, Carl Eduard Adolph. Die klassen und ordnungen der arthropoden wissenschaftlich dargestellt in wort und bild. 5^{er} band, erste abtheilung. Crustacea (erste hälfte) mit 50 lithographirten tafeln. 8^o. Leipzig und Heidelberg. 1866-79. Also entitled: Die klassen und ordnungen des tierreichs wissenschaftlich dargestellt in wort und bild. Von Dr. H. G. Bronn. Fortgesetzt von A. Gerstaecker. 5^{er} band: Gliederfüssler (arthropoda).

Contains in the introduction to the arthropoda in general: viii. Zeitliche verbreitung, divided into: 1. Allgemeiner charakter der fossilen arthropoden, pp. 287-292. 2. Aufeinanderfolge der formen in den verschiedenen erdschichten, pp. 293-295. Published in 1866? Under the first section the author notices the extremely small number of known fossil forms as compared with living types, and their almost complete typical agreement with existing forms; insisting that even the oldest not only fall into the orders, but even into the families of insects now extant.

Gerstaecker, C. E. A. See also **Packard, A. S.**; and **Scudder, S. H.**

Gervais, Paul. See **de Borre, A. P.**

Giard, (Alfred). Un papillon dans la houille; note de M. Preudhomme de Borre. *Bull. scient. hist. et litt.*

dép. Nord, ann. 7, no. 6-7, pp. 121-127. 8^o. Lille. 1875.

Discusses the affinities of *Breyeria*, concluding that it is not a lepidopteron but belongs to the Archiptera.

Giard, A. Note sur un diptère nouveau pour la faune française (*Penthetria holosericea* Meig.) suivie de quelques remarques sur les bibionides fossiles. *Bull. scient. hist. dép. nord, ann. 8, pp. 172-178.* 8^o. Lille. 1876.

Discusses, pp. 177-78, the *Penthetria Vaillantii* of Oustalet from Auvergne. Continued in the following.

Giard, A. Note sur les bibionides fossiles. *Bull. scient. dép. nord [2] 1: 12-16.* 8^o. Lille. 1878.

Criticises the classification by Oustalet and Brongniart of various species placed by them in *Protomyia*. A continuation of the preceding.

Giard, A. Les coléoptères fossiles d'Auvergne par M. Oustalet; remarques critiques. *Bull. scient. dép. Nord, [2], 1: 56-62, 109-118.* 8^o. Lille. 1878.

A sharp criticism of Oustalet's memoir on the fossil insects of Auvergne; the Neuroptera as well as the Coleoptera are discussed.

Giard, A. See also **de Borre, A. P.**; **Oustalet, E.**; and **de Saporta, G.**

Giebel, Christoph Gottfried. Paläozoologie; entwurf einer systematischen darstellung der fauna der vorwelt. 8^o. Merseburg. 1846. pp. 8, 360.

The insects, mentioned only by generic names, are systematically treated under each period: the period of water life on pp. 38-57, the transition period on pp. 144-148, and the period of land and air life on pp. 265-288.

Giebel, C. G. Gaea excursoria germanica; Deutschlands geologie, geognosie und paläontologie als unentbehrlicher leitfaden auf excursionsen und beim selbststudium. 16^o. Leipzig. 1848. pp. 8, 510, (24), taf. 24.

Brief mention of insects on pp. 160, 266, 323, 442. *Blattina didyma* is figured on pl. 5, fig. 26.

Giebel, C. G. Ueber insectenreste im wettiner steinkohlengebirge. *Jahresb. naturw. ver. Halle, 2: 8-9.* 8^o. Berlin. 1850.

Mention of the cockroaches described by Germar.

Giebel, C. G. Bericht über die leistungen im gebiete der paläontologie mit besonderer berücksichtigung der geognosie während der jahre 1848 und 1849. 8^o. Berlin. 1851. pp. (4), 281.

5. Insecten, pp. 92-95, is mostly taken up with a notice of the first volume of Heer's Öeningen insects.

Giebel, (C. G.) Deutschlands petrefecten; ein systematisches verzeichniss aller in Deutschland und den angrenzenden ländern vorkommenden petrefecten, nebst angabe der synonymen und fundorte. 8^o. Leipzig. 1852. pp. 13, 706.

Arachnoidea, pp. 634-636; Insecta, pp. 636-656. A simple list.

Giebel, C. G. Allgemeine palaeontologie; entwurf einer systematischen darstellung der fauna und flora der vorwelt; zum gebrauch bei vorlesungen und zum selbstunterrichte. 8^o. Leipzig. 1852. pp. 8, 413.

Insects treated on pp. 117-118, 204-208, 276-286 under the same general divisions as in the author's *Paläozoologie*. The genera are enumerated.

Giebel, (C. G.) Beiträge zur palaeontologie. 8^o. Berlin. 1853. pp. 4, 192, pl. 3. *Jahresb. naturw. ver. Halle, 5: 287-478.* 8^o. Berlin. 1853.

Contains: i. Die palaeontologie Deutschlands auf ihrem gegenwärtigen standpunkte, pp. 1-71 [287-357]. A tabular view of the genera found in Germany with the number of species of each includes, pp. 63-66 [349-352], the insects, 169 genera, and 377 or more species.

v. Bericht über den fortschritt der paläontologie während der jahre 1850-52, pp. 108-192. Contains an analysis of the literature on fossil insects on pp. 124-126 [410-412].

Giebel, (C. G.) Die insecten und spinnen der vorwelt mit steter berücksichtigung der lebenden insecten und spinnen; monographisch dargestellt. Also entitled: Fauna der vorwelt mit steter berücksichtigung der lebenden there. 2^{er} band; Gliederthiere; erste abtheilung: Insecten und spinnen. 8^o. Leipzig, 1856. pp. 18, 511.

A systematic treatment of all the fossil insects then known with descriptions of nearly all; many are described and named for the first time from published plates. Notice especially the treatment of the illustrations of Brodie's fossil insects of England. Some new amber insects also appear.

Giebel, C. G. Insectenreste aus den braunkohlenschichten bei Eisleben. *Zeitschr. gesamm. naturwissensch.*, 7: 384-386, taf. 5, figs. 1-4. 8^o. Berlin. 1856.

Describes and figures four insects, — two coleoptera, one cockroach, and one dragon-fly, — to only one of which, *Buprestiles Minnae*, a name is given.

Giebel, C. G. Geologische uebersicht der vorweltlichen insecten. *Zeitschr. gesamm. naturw.*, 8: 174-188. 8^o. Berlin. 1856.

A general review of authorities, with lists of the species mentioned in their works.

Giebel, C. G. Zur fauna des lithographischen schiefers von Solenhofen. *Zeitschr. gesamm. naturw.*, 9: 373-388, taf. 5-6. 8^o. Berlin. 1857.

Contains long descriptions and figures of two dragon-flies.

Giebel, (C. G.) Eine neue aeschna aus den lithographischen schiefer von Solenhofen. *Zeitschr. gesamm. naturw.*, 16: 127-131, taf. 1. 8^o. Berlin. 1860.

Describes very fully *Aeschna Wittei*.

Giebel, (C. G.) Wirbelthier und insectenreste im bernstein. *Zeitschr. gesamm. naturwiss.*, 20: 311-321. 8^o. Halle. 1862.

Describes sixteen insects of all orders.

Giebel, C. G. Ueber eine kleine . . . suite von bernstein-insecten. *Zeitschr. gesamm. naturw.*, [2], 1: 87. 8^o. Berlin. 1870.

Mentions an ant and several genera of flies in a collection received from Dr. Schreiber.

Gilbert, Ludwig Wilhelm. See **Troost, G.**
G[irard], M[aurice]. Les articulés fossiles. *La nature*, 5: 301-302. 4^o. Paris. 1877.

Brief notice of recent papers by Brongniart, including that on *Protomyia Oustaleti*.

G[irard], M. Les perforations des bois fossiles. *La nature*, 6: 112, figs. 1-6. 4^o. Paris. 1878.

Popular account of Brongniart's two papers on the subject with figures.

G[irard], M. Une très-ancienne araignée. *La nature*, 6: 144, figs. 1-4. 4^o. Paris. 1878.

A popular account of *Atoides eresiformis* described by Brongniart.

Girard, M. Un spectre fossile. *La nature*, 7: 108-110, fig. 4^o. Paris. 1879.

Popular account of *Protophomas Dumasi*.

Girard, M. See also **Oustalet, E.**

Gistel, Johannes Nepomuk Franz Xaver. Kerfe in copal eingeschlossen. *Oken, Isis*, 1831, 247-248. 4^o. Leipzig. 1831.

Describes four new species from Brazil. Noticed in *Neues Jahrb. mineral.*, 1833, 712. 8^o. Stuttgart. 1833.

Goepfert, Heinrich Robert. On amber and on the organic remains found in it. *Quart. Journ. geol. soc. Lond.*, 2, i: 102-103. 8^o. London. 1846.

A paragraph only on the insects, p. 102, specifying the orders and numbers of insects found.

Goepfert, H. R. Die tertiäre flora von Schossnitz in Schlesien. 4^o. Görlitz. 1855. pp. 18, 52, pl. 26.

Six insects are figured on pl. 26, with a brief statement concerning them on p. vii.

Goepfert, H. R. Die fossile flora der permischen formation. 4^o. Cassel. 1864-65 2 t. p., pp. 316, taf. 64. *Palaeontogr.*, bd. 12. 4^o. Cassel. 1864-65.

Contains p. 289: D. Beiträge zur fauna der permischen formation, in which he mentions and names two wings and a body of cockroaches (localities not specified) which are figured on plates 28 and 64.

Goepfert, Heinrich Robert, und Berendt, Georg Carl. Der bernstein und die in ihm befindlichen pflanzenreste der vorwelt. 6^o. Berlin. 1845. pp. (6), 4, 126, tab. 7. **Berendt, Org. reste bernst.**, bd. 1, abth. 1.

Contains an important chapter, pp. 41-60, by Dr. Berendt, on Die organischen bernstein-einschlüsse im allgemeinen, treating of insects from p. 46 on, with many details and generalizations of interest, giving the first extended review of amber insects.

Goldberger, F. See **Goldenberg, F.**
Goldenberg, Friedrich. Prodom einer naturgeschichte der fossilen insecten der kohlenformation von Saarbrücken. *Sitzungsber. math.-nat. cl. akad. wiss. Wien*, 9: 38-39. 8^o. Wien. 1852.

A nominal list, without description, of six new Orthoptera and Neuroptera. The author's name is accidentally given as Goldberger.

Goldenberg, F. [Brief] an Herrn v. Carnell. *Zeitschr. deutsch. geol. gesellsch.*, 4: 246-248. 8^o. Berlin. 1852.

Much the same as the preceding, but with a few more details and comparisons, and without mention of specific names.

Goldenberg, F. Ueber versteuerte insectenreste im steinkohlengebirge von Saarbrücken. *Anth. ber. vers. gesellsch. deutsch. naturf.*, 29: 123-126. 4^o. Wiesbaden. 1853.

Goldenberg, F. Die fossilen insecten der kohlenformation von Saarbrücken. t. p., pp. 24, pl. 4. 4^o. Cassel. 1854. *Palaeontogr.*, 4: 17-40, tab. 3-6. 4^o. Cassel. 1854.

A careful description and excellent illustration of the species mentioned in his previous papers, with as many more. The remarkable genus *Dictyonera* is introduced with three species.

Goldenberg, F. Beiträge zur vorweltlichen fauna des steinkohlengebirges zu Saarbrücken. The title within is: Uebersicht der thierreste der kohlenformation von Saarbrücken. *Jahresb. k. gymn. u. vorsch. Saarbr.*, 1867, pp. 1-26. 4^o. Saarbrücken. 1867.

The insects occupy pp. 7-20 and swell the number of Saarbrück insects to seventeen. References are made to plates, but these are not given until the same paper appears as the first heft of his *Fauna saraep. foss.*

Goldenberg, F. Zur kennntniss der fossilen insecten in der steinkohlenformation. *Neues Jahrb. f. miner.*, 1869, pp. 158-168, pl. 3. 8^o. Stuttgart. 1869.

Description and illustration of ten new Blattinae and two Homoptera.

Goldenberg, F. Zwei neue ostracoden und eine blattina aus der steinkohlenformation von Saarbrücken. *Neues Jahrb. f. mineral.*, 1870: 286-289, figs. 8^o. Stuttgart. 1870.

Blattina winteriana is described and figured on pp. 288-289.

Goldenberg, F. Fauna saraepontana fossilis. Die fossilen thiere aus der steinkohlenformation von Saarbrücken. 1^{es} heft, mit zwei tafeln abbildungen. 4^o. Saarbrücken. 1873. t. p., pp. 26 (2), pl. 2. 2^{tes} heft, mit zwei tafeln abbildungen. 4^o. Saarbrücken. 1877. pp. 4, 54, pl. 2.

The first part, with the exception of the introduction and the addition of the plates referred to in the text, is an exact reproduction of the paper published six years earlier in the report

of the Saarbrück gymnasium, no mention being made of the author's own additions to the carboniferous fauna since it was issued. These and others appear in the second part, where the insects occupy pp. 8-34 and pl. 1. The order Palaeodictyoptera is here instituted for the Dictyoptera (nom. praecoc.) of Dohrn. The number of species treated is twenty-seven, not however all confined to Saarbrück; this brings the number of Saarbrück insects as given in the catalogue, pp. 50-51, to thirty-eight, and renders this work the most important contribution to palaeozoic entomology that has ever appeared. A nominal list of 76 fossil cockroaches, based on that of Heer, is given on pp. 19-21. A Supplement-heft is promised.

Goldfuss, Georg August. Beiträge zur Kenntniss verschiedener reptilien der vorwelt. *Nova acta phys.-med. acad. Leop.-Car. nat. cur.*, 15, i (*Verh. Leop. Car. akad. nat.*, 7, i.): 61-128, pl. 7-13. 4°. Bonnæ. 1831.

On p. 118 will be found a list of genera of insects found in the Rhenish braunkohl at Stösschen, Friesdorf, and Orsberge.

Goldsmith, E. On amber containing fossil insects. *Proc. acad. nat. sc. Philad.*, 1879, 207-208. 8°. Philadelphia. 1879.

Mainly a description of its physical qualities, but mentions "ants, a fly, and probably small species of Coleoptera" in a fragment picked up on the shore of Nantucket, Mass.

Goss, Herbert. Exhibition of a small collection of fossil insects obtained by Mr. J. S. Gardner from the Bournemouth leaf-beds (middle eocene). *Proc. entom. soc. Lond.*, 1878, p. 8. 8°. London. 1878.

Merely mentions a few species by generic names.

Goss, H. Notes on a fossil wing of a dragon fly, from the Bournemouth leaf beds. *Entom.*, 11: 193-95, fig. 8°. London. 1878.

Goss, H. Three papers on fossil insects, and the British and foreign formations in which insect remains have been detected. No. 1. The insect fauna of the recent and tertiary periods. 8°. [London, 1878.] pp. 65. *Proc. geol. assoc.*, 5, no. 6, pp. 282-343. 8°. London. 1878.

ABSTRACT: The insect fauna of the tertiary period, and the British and foreign formations in which insect-remains have been detected. *Geol. mag. (n. s.)*, 4: 163-165. 8°. London. 1877.

First read before the Brighton and Sussex natural history society; afterwards before the association. This abstract, and those of the succeeding papers of this series, were published previous to the full papers. See also Bargagli, P. (in Appendix).

Goss, H. The same. No. 2. The insect fauna of the secondary or mesozoic period. 8°. [London, 1879.] pp. 37. *Proc. geol. assoc.*, 6, no. 3, pp. 116-150. 8°. London. 1879.

ABSTRACT: The insect-fauna of the secondary or mesozoic period, and the British and foreign strata in which insect remains have been detected. *Geol. mag. (n. s.)*, 5: 134-136. 8°. London. 1878.

Goss, H. The same. No. 3. The insect fauna of the primary or palaeozoic period. 8°. [London, 1880.] pp. 32. *Proc. geol. assoc.*, 6, no. 6, pp. 271-300. 8°. London. 1880.

ABSTRACT: The insect fauna of the primary or palaeozoic period and the British and foreign strata of that period in which insect remains have been detected. *Geol. mag. (n. s.)*, vol. 6, pp. 230-232. 8°. London. 1879.

These three papers contain a careful review of the literature of fossil insects; each geological formation is separately treated, containing references to all the genera, and in very many cases to the species found in it, with full bibliographical references. It will be found very useful to the general student.

Goss, H. Introductory papers on fossil entomology. No. 1. On the importance of an acquaintance with the subject; its bearing on the question of the evolution of insects, and the evidence it affords of the antiquity of their family types. *Entom. monthl. mag.*, 15: 1-5. 8°. London. 1878.

Goss, H. The same. No. 2. The comparative age of the existing orders of insects, and the se-

quence in which they appeared on the geological horizon. *Entom. monthl. mag.*, 15: 52-56. 8°. London. 1878.

Goss, H. The same. No. 3. Palaeozoic time. On the insects of the devonian period, and the animals and plants with which they were correlated. *Entom. monthl. mag.*, 15: 124-127. 8°. London. 1878.

Goss, H. The same. No. 4. Palaeozoic time. On the insects of the carboniferous period, and the animals and plants with which they were correlated. *Entom. monthl. mag.*, 15: 169-73. 8°. London. 1879.

Goss, H. The same. No. 5. Palaeozoic time. On the insects of the permian period, and the animals and plants with which they were correlated. *Entom. monthl. mag.*, 15: 226-228. 8°. London. 1879.

Goss, H. The same. No. 6. Mesozoic time. On the insects of the triassic period, and the animals and plants with which they were correlated. *Entom. monthl. mag.*, 15: 245-246. 8°. London. 1879.

Goss, H. The same. No. 7, part 1. Mesozoic time. On the insects of the jurassic period, and the animals and plants with which they were correlated. *Entom. monthl. mag.*, 16: 7-10. 8°. London. 1879.

Goss, H. The same. No. 7, part 2. Mesozoic time. On the insects of the jurassic period and the animals and plants with which they were correlated. *Entom. monthl. mag.*, 16: 25-29. 8°. London. 1879.

Goss, H. The same. No. 8. Mesozoic time. On the insects of the cretaceous period and the animals and plants with which they were correlated. *Entom. monthl. mag.*, 16: 58-60. 8°. London. 1879.

Goss, H. The same. No. 9. Cainozoic time. On the insects of the eocene period, and the animals and plants with which they were correlated. *Entom. monthl. mag.*, 16: 124-128. 8°. London. 1879.

Goss, H. The same. No. 10. Caenozoic time. On the insects of the miocene period and the animals and plants with which they were correlated. *Entom. monthl. mag.*, 16: 176-181. 8°. London. 1880.

Goss, H. The same. No. 11. Caenozoic time. On the insects of the post tertiary or quaternary period and the animals and plants with which they were correlated. *Entom. monthl. mag.*, 16: 198-201. 8°. London. 1880.

This series of papers covers much the same ground as the preceding series of three; but the formations are followed in an ascending order, and the progress of insect life at each epoch is compared to that of other contemporary animals and plants. The lists of the other series are omitted, and the references to insects are mostly by genera.

Goss, H. The geological antiquity of insects. Twelve papers on fossil entomology, reprinted, with some alterations and additions, from vols. xv. and xvi. of the Entomologist's monthly magazine. 8°. London. 1880. pp. (2), 50.

The preceding series, collected into a pamphlet.

Gravenhorst, Johann Ludwig Karl. Monographia coleopterorum micropterorum. 16°. Göttingæ. 1806. pp. 16, 236, (12), tab. 1.

Contains, pp. 235-236, description of a single species of *Oxyporus* from amber, which in p. (3) of index is given the specific name *Blumenbachii*.

Gravenhorst, J. L. K. Bericht der entomologischen section. *Übers. arb. veränd. schles. gesellsch. waterl. cultur*, 1834, 88-95. 4°. Breslau. 1835.

On pp. 92-93 is given a list by genera of a collection of about 750 insects in amber exhibited before the entomological section of the society.

This communication has been frequently referred to Schilling, but apparently upon no proper grounds; his name does not appear.

- Gray**, John Edward. See **Buckland**, W.
- Grew**, Nehemiah. *Musaeum regalis societatis*; or, a Catalogue and description of the natural and artificial rarities belonging to the Royal society and preserved at Gresham college; whereunto is subjoined the comparative anatomy of stomachs and guts. fo. London. 1681. pp. (12), 386, (2), (2), 43. portr., pl. 31.
- On p. 344 (misprinted 334), he mentions amber containing cicadas, gnats, emmets, flies, and other insects. The edition of 1686 does not differ. Neither, apparently, do the editions of 1685 and 1694 which I have not seen.
- Guérin-Ménéville**, Félix Édouard. Insectes fossiles. *Dict. classique hist. nat.*, 8: 579-581. 16°. Paris. 1825.
- A review of past writers, containing nothing new excepting an attempt to indicate the genera of amber insects figured by Seudelus.
- Guérin-Ménéville**, F. E. See also **Barthélemy-Lapommeraye**, A.; **Maravigna**, C.; **Rondani**, C.
- Gutbier**, August von. See **Geinitz**, H. B., and **Gutbier**, A. von.
- Haesbert**, Martin Johann. De conchylio et ape petrifactis. *Ephem. med. phys. acad. caes. Leop. nat. curios.*, dec. 3, ann. 2, pp. 48-49. 4°. Leipzig. 1695. Not seen.
- Hagen**, Hermann August. Die fossilen libellen Europas. *Stett. entom. zeit.*, 9: 6-13. 16°. Stettin. 1848.
- A revision and brief description of the fifteen species then known.
- Hagen**, H. A. Ueber die fossile odonate Heterophlebia dislocata Westwood, nebst abbildung. *Stett. ent. zeit.*, 10: 226-231, pl. 1. 16°. Stettin. 1849.
- An extended description, showing that it represents a new genus of Gomphidae.
- [**Hagen**, H. A.] Das bernsteinland. *Neue preuss. prov.-blätter*, 10: 75-82, 120-125. 16°. Königsberg. 1850.
- A brief statement of the amber insects is given on pp. 124-125. The species are all extinct, the genera mostly still exist.
- Hagen**, H. A. Ueber die lebensweise der termiten und ihre verbreitung. *Königsb. naturw. unterh.*, 2, iii: 53-75. 8°. Königsberg. 1852.
- Page 71 treats of the fossil species in amber, and from the tertiary beds of Oeningen and Radoboj, as proving a warmer climate in ancient Europe; of the sixty known species of white ants one third were fossil.
- Hagen**, H. A. Ueber die neuropteren der bernstein fauna. *Verhandl. zool.-bot. ver. Wien*, 4: 221-232. 8°. Wien. 1854.
- A systematic review of the nearly 900 specimens examined by the author. The Sitzungsberichte of the same volume, pp. 76-78, contain the remarks of Brauer, comparing the results reached by Hagen with those of Loew and Göppert for Diptera and plants; and the comments of von Hauer, who indicates the places where amber is said to occur in older formations, but never with insect or plant remains.
- Hagen**, H. A. Monographie der termiten. *Linn. entom.*, 10: 1-144, 270-325 (1855); 12: 1-342, pl. 1-3 (1858); 14: 73-128 (1860). 8°. Stettin. 1855-60.
- Includes a treatment of the (14) fossil species with the others. Besides this, under the head Literatur (paleoentologie), x: 302-310; xii: 294-298, an analysis is given of works in which the fossil species have been previously treated. See also ○.
- Hagen**, H. A. Catalogue of the specimens of neuropterous insects in the collection of the British museum. Part I. Termitina. 12°. London. 1858. pp. 34.
- Contains the fifteen fossil species described in the Monographie der termiten, from which indeed the whole was compiled. [by Adam White?] without the knowledge of the reputed author. None of the fossil species are recorded as in the collections of the British museum.

Hagen, H. A. Zwei libellen aus der braunkohle von Sieblos. *Palaontogr.*, 5: 121-124, tab. 24: 4°. Cassel. 1858.

Description of *Heterophlebia jucunda* and *Lestes vicina*.

Hagen, H. A. Ascalaphus proavus aus der rheinischen braunkohle. *Palaontogr.*, 5: 125-126, tab. 25: 4°. Cassel. 1858.

Hagen, H. A. Petalura? acutipennis aus der braunkohle von Sieblos. *Palaontogr.*, 8: 22-26, taf. 3, figs. 1-4. 4°. Cassel. 1859.

Hagen, H. A. An entomological trip to Oxford. *Entom. weekly intell.*, 10: 165-168. 8°. London. 1861.

Contains an account of the Sicilian amber in the Hope collection, with a notice of three species of white ants found therein.

Hagen, H. A. Insekten im sizilianischen bernstein im oxford museum. *Stett. entom. zeit.*, 23: 512-514. 16°. Stettin. 1862.

More particularly concerned with a notice of three species of white ants, which is much the same as that given in the preceding.

Hagen, H. A. A comparison of the fossil insects of England and Bavaria. *Entomol. annual*, 1862, pp. 1-10. 16°. London. 1862.

Devoted almost exclusively to a comparison of the Neuroptera of the Bavarian jura and the English lias-insects, by which he concludes the two faunas to be "extremely closely allied" and to be very different from the tertiary or existing forms.

Hagen, H. A. Comparison of fossil insects of England and Bavaria. *Report Brit. assoc. adv. sc.*, 31; notices, 113-114. 8°. London. 1862.

Dealing mostly with Odonata. The same given more fully in the *Entom. annual*.

Hagen, H. A. Ueber die neuroptern aus dem lithographischen schiefer in Bayern. *Palaontogr.*, 10: 96-145, taf. 13-15. 4°. Cassel. 1862.

An introduction of nine pages, containing besides other interesting matter the comparison of the mesozoic insects of England and Bavaria given the previous year in England (see the preceding entries), is followed by a list of thirty-seven species, mostly Odonata, found at Solenhofen and Eichstätt, by five pages of a review of earlier writers, especially Germar, and by the extended description of twenty-four species, pp. 114-145.

Hagen, H. A. Neuroptern aus der braunkohle von Rott in Siebengebirge. *Palaontogr.*, 10: 247-269, taf. 43-45. 4°. Cassel. 1863.

Extended descriptions of ten species, mostly Odonata, preceded by lists of the insects previously described from the Rhenish brown-coal.

Hagen, H. A. Phryganidarum synopsis synonymica. 8°. Wien. 1864. pp. 92. *Verh. zool.-bot. gesellsch. Wien*, 1864, 799-890. 8°. Wien. 1864.

Includes the fossil species, twenty-eight in number, of which ten belong to Polycentropus.

Hagen, H. A. On some aberrant genera of Psocina. *Ent. monthl. mag.*, 2: 148-152, 170-172. 8°. London. 1865-66.

Describes two species from amber and three from copal, besides seven recent species, being all the ocellate species known.

Hagen, H. A. Psocinorum et embidinorum synopsis. 8°. Wien. 1866. pp. 22. *Verh. zool.-bot. gesellsch. Wien*, 1866, 201-222. 8°. Wien. 1866.

Includes the fossil species, 8 Psocina, 1 Embidina; besides 3 Psocina from copal.

Hagen, H. A. Hemerobidarum synopsis synonymica. *Stett. entom. zeit.*, 1866: 369-462. 16°. Stettin. 1866.

Includes the fossil species, fourteen in number.

Hagen, H. A. Die neuroptera des lithographischen schiefers in Bayern. Pars 1: Tarsophlebia, Iso-phlebia, Stenophlebia, Anax. 4°. Cassel. 1866.

pp. 40, taf. 4. *Palaeontogr.*, 15: 57-96, taf. 1-4. Cassel. 4^o. 1866.

Extended generic and specific descriptions of eight dragon-flies.

Hagen, H. A. Synopsis pseudoscorpionidum systematica. *Proc. Bost. soc. nat. hist.*, 13: 263-272. 8^o. Boston. 1870.

A synonymic list of the known species of which fifty are recorded, ten of them (one, however, doubly recorded) fossil, all but one being from amber.

Hagen, H. A. Beiträge zur kenntniss der phryganiden. *Verh. zool.-bot. gesellschaft. Wien*, 23: 377-452. 8^o. Wien. 1873.

Hoeninghaus's description of *Phryganea mombachiana* is copied on p. 379, and the insect considered as probably belonging to the Phryganidae proper.

Hagen, H. A. On amber in North America. *Proc. Bost. soc. nat. hist.*, 16: 296-301. 8^o. Boston. 1874.

Recalls Troost's paper of 1821 on amber in Maryland and its reported inclusion of insect-nests; collects other references to American amber, and, pp. 300-301, refers to the resemblance of the fauna and flora of Prussian Amber to that of the present time in North America, instancing Termopsis and Amphientomum among Neuroptera. See also Troost, G.

Hagen, H. A. The oldest fossil insects. *Nature*, 23: 483-484. 4^o. London. 1881.

Disputes unqualifiedly the conclusions of Scudder concerning the devonian insects.

Hagen, H. A. The devonian insects of New Brunswick. *Bull. mus. comp. zool.*, 8: 275-284. 8^o. Cambridge. 1881.

After a "detailed comparison of a majority of the types," arrives at conclusions "radically different from the views entertained by Mr. Scudder," in his memoir on the subject.

Hagen, H. A. See also **de Borre, A. P.**; **Cornelius, C.**; **Geinitz, H. B.**; **Germar, E. F.**, and **Berendt, G. C.**; **Hassencamp, E.**; **Packard, A. S.**; **Pictet-Baraban, F. J.**, and **Hagen, H. A.**; and **de Selys-Longchamps, E.**, et **Hagen, H. A.**

Hagen, Karl Gottfried. Bemerkungen, die entstehung des bernsteins betreffend. *Beitr. kunde Preuss.*, 4: 207-227. 16^o. Königsberg. 1821.

Argues, p. 209, from the nature of the insects entombed in it, that amber is the gum of a tree.

Haidinger. See **Heer, O.**

Hammerschmidt, Karl Eduard. Neue käfer in bernstein. *Haidinger, Bericht. fr. naturw. Wien*, 1: 39. 8^o. Wien. 1847.

Mere exhibition of a specimen.

Harger, Oscar. Notice of a new fossil spider from the coal measures of Illinois. *Amer. Journ. sc. arts*, [3], 7: 219-223. 8^o. New Haven. 1874.

Extended description of *Arthrolycosa antiqua* with discussion of its affinities.

Hartig, Ernst. See **Geinitz, H. B.**, **Fleck, H.**, and **Hartig, E.**

Hartmann, Philipp Jacob. Succini prussici physica et civilis historia cum demonstratione ex autopsia et intimiori rerum experientia deducta. 16^o. Francofurti. 1677. front, pp. 291, pl. 3.

In book 1, chapt. 5, sect. 8, De inclusis, he mentions, p. 90, the occurrence in amber of "araneorum non unam species; muscas majores, minores; calices, crabrones, apes, tineas, blattas, formicas, locustas;" and in book 2, chapt. 5, sect. 8, pp. 278-281 he endeavors to account for the occurrence of inclusions in general.

Another edition of the same date and place differs only in the plates, of which there are twenty according to Boehmer.

Hartmann, P. J. Succincta succini prussici historia et demonstratio. 4^o. Berolini. 1699. pp. (8), 48. *Phil. trans.*, xxi: 5-40. 4^o. London. 1699.

Sect. 3, c. iii: Animalculorum succino inclusorum accuratio demonstratio, pp. 19-21 (19-22 sep.), mentions in general terms the different sorts of insects known to be found in amber.

According to Boehmer the separate edition was accompanied by six plates, but they do not exist in the two copies I have seen; the eight preliminary pages do not appear in the *Phil. trans.*

A very full abstract in English, under the title An account of amber, appears in *Phil. trans. abr.*, 2: 473-493. 4^o. London. 1749. The notice of the insects occurs on pp. 481-482.

Hassencamp, Ernst. Ueber fossile insekten der Rhön. *Würzb. naturwiss. zeitschr.*, 1: 78-81. 8^o. Würzburg. 1860.

Contains MS. names of fossil insects by Heer, Hagen, and Heyden.

Hebenstreit, Johann Ernest. Mysevm richterianvm continens fossilia animalia vegetabilia mar. illustrata iconibus & commentariis. Accedit de gemmis scalptis antiquis liber singularis. 1^o. Lipsiae. 1743. pp. 56, 384, (16), 34, portr., pl. 17.

A few fossil insects are specified on p. 256, and a "libella" figured pl. 13 fig. 2.

Heer, Oswald. Physiognomie des fossilen Oeningen. 8^o. [Winterthur, 1847], pp. 22. *Verhandl. schweiz. naturf. gesellschaft.*, 31: 159-180. 8^o. Winterthur. 1847.

A general report on the insects will be found on pp. 167-174. Separate copy not seen.

Heer, O. Ueber die fossile insekten-fauna der tertiär-gebilde von Oeningen und Radoboj und die pflanzen aus gleicher formation an der hohen Rhone, aus einem briefe an Professor Bronn. *Neues jahrb. f. mineral.*, 1847: 161-167. 8^o. Stuttgart. 1847.

A catalogue of the beetles described in the first part of the following work, with brief remarks on the general aspect of the fauna.

TRANSLATION. On the fossil insects of the tertiary formation of Oeningen and Radoboj. *Quart. Journ. geol. soc. Lond.*, 3, ii: 60. 8^o. London. 1847.

Catalogue and concluding remarks omitted.

Heer, O. Die insektenfauna der tertiärgebilde von Oeningen und von Radoboj in Croatien. Erster theil: Käfer. 4^o. Leipzig. 1847. tp. pp. 2, 229, 1, pl. 8. *Neue denkschr. allg. schweiz. gesellschaft. f. wissenschaft.*, 8. 4^o. Neuchâtel. 1847.

Heer, O. The same. Zweiter theil: Heuschrecken, florfiegen, aderflügler, schmetterlinge und fliegen. Mit 17 lithographirten tafeln. 4^o. Leipzig. 1849. pp. 264, 5, pl. 17. *Ibid.*, 11. 4^o. Zürich. 1850.

Heer, O. The same. Dritter theil: Rhynchoten. Mit 15 lithographirten tafeln. 4^o. Leipzig. 1853. pp. 4, 138, pl. 15. *Ibid.* 13. 4^o. Zürich. 1853.

This classical work is the most important ever published upon fossil insects, and may be called the first serious attempt at the classification of the tertiary species. Most of the material came from Oeningen and Radoboj, but it included all the author could examine from Aix and other localities. 462 species are described and figured, divided as follows: 119 Coleoptera, 39 Gymnognatha, 3 Neuroptera, 8 Hymenoptera, 9 Lepidoptera, 80 Diptera, and 133 Hemiptera. There are very few general observations, but attention should be called to an important excursus on the arrangement of the veins in the wings of insects and the elytra of Coleoptera, in the first part, pp. 76-95.

Reviewed by T. R. J(ones) in *Quart. Journ. geol. soc. Lond.*, 9, ii, 33. 8^o. London. 1853.

Diagnoses of the species described in the third part appeared, without title, in the *Bericht österr. litt. zool. bot. paleont.*, 1850-53: 199-203. 8^o. Wien. 1855.

Heer, O. Ueber die vorweltlichen käfer von Oeningen. *Mittheil. naturf. gesellschaft. Zürich*, 1, i: 17-18. 8^o. Zürich. 1847.

A brief general statement of the peculiarities of the beetle-fauna of Oeningen.

Heer, O. Ueber vorweltliche florfiegen. *Mittheil. naturf. gesellschaft. Zürich*, 1, ii: 52-54. 8^o. Zürich. 1848.

A brief notice of the fossil dragon-flies of Oeningen and Radoboj.

Heer, O. Ueber fossile ameisen. *Mittheil. naturf. gesellsch. Zürich*, 1, ii: 167-174. 8o. Zürich. 1848.

The fossil ants of Oeningen and Radoboj are winged and either ♂ or ♀, neuters being rarely preserved; three fourths are females. The individuals are very abundant and are preserved in large assemblages, and many species in close contiguity; most of them are Formicidae, and they form the best data for comparison of the Oeningen and Radoboj faunas.

TRANSLATION. On fossil ants. *Quart. journ. geol. soc. Lond.*, 6, ii: 61-65. 8o. London. 1850.

Translated by T. R. J(ones).

Heer, O. Fauna von Radoboj. Aus einem briefe [an Herrn bergrath Haidinger.] Haidinger, *Berichte*, 5: 86-87. 8o. Wien. 1849.

Notice of the more remarkable insects belonging to the Vienna museum, and which are described in his great work, followed by brief remarks on the Radoboj insect fauna as a whole; and by comments of Haidinger.

Heer, O. Brief von O. Heer. Haidinger, *Berichte*, 5: 107. 8o. Wien. 1849.

Notice of some peculiarities in the insect fauna of Radoboj in a letter to Unger.

Heer, O. Nachricht über die ersten ergebnisse einer durchsicht der reichen suite fossiler insekten, die von Herrn custos Freyer in Radoboj gesammelt . . . worden waren. Haidinger, *Berichte*, 6: 5-7. 8o. Wien. 1849.

Cursory report of his first examination of a considerable collection of Radoboj insects, three fifths of which were found to be ants.

Heer, O. Die Morlot'sche sammlung von fossilen insekten aus Radoboj. Haidinger, *Berichte*, 6: 132-134. 8o. Wien. 1849.

A similar report to the last in the same volume; the ants bear the same proportion as before and make the tertiary European species equal in number to the living.

Heer, O. Zur geschichte der insekten. Vortrag. 8o. N. P., N. D. pp. 20. *Verhandl. schweiz. gesellsch. gesamm. naturw.*, 34: 78-97. 8o. Frauenfeld. 1849. *Neues jahrb. f. mineral.*, 1850, 17-33. 8o. Stuttgart. 1850.

A popular address, presenting a sketch of the sequence of insect life and the development of special groups, with general considerations based on a broad survey of the subject; by far the best account of the knowledge of that time. An abstract is given in Haidinger's *Berichte*, 6: 135-136. 8o. Wien. 1849.

TRANSLATION. On the history of insects. *Quart. journ. geol. soc. Lond.*, 6, ii: 68-76. 8o. London. 1850.

Translation by T. R. J(ones).

Heer, O. 1. [Zwei] geologische vorträge gehalten im März 1852 von Oswald Heer und A. Escher von der Linth. 1. Die lias-insel des Aargau's. Entitled on the cover: Ueber die lias-insel im Aargau. 2. Ueber die gegend von Zürich in der letzten periode der vorwelt, mit einer blockkarte der Schweiz. 4o. Zürich. [1852]. pp. 28, pl. 2.

Heer's portion, pp. 1-15, pl. 1, is largely devoted to insects, the greater part of which are wood-boring coleoptera, and indicate a warm tropical climate. Twenty-two species are described and figured, of which nineteen are beetles.

Heer, O. Beschreibung der angeführten pflanzen und insekten. 4o. N. P., N. D. pp. 21, taf. (3). Also in Escher v. d. Linth (A.) Geologische bemerkungen über das nördliche Voralberg und einige angrenzenden gegenden. pp. 115-135, taf. 6-8. *Neue denkschr. allg. schweiz. gesellsch. gesamm. naturw.* 13. 4o. Zürich. 1853.

B. Insekten, pp. 18-21 (133-35), taf. 7. Describes two beetles from the trias of Vadutz.

Heer, O. Ueber die rhynchoten der tertiärzeit. 8o. Zürich. 1853. pp. 29. *Mitth. naturf. gesellsch. Zürich*, 3: 171-197. 8o. Zürich. 1853.

General account of the relations of the Rhynchota of Oeningen, Radoboj, and Aix to existing faunas, followed by a list of the species described in the third part of his Tertiary insects. They agree better with the insects of the Southern zone than with those of Switzerland, and the Caspian and Riparian characteristic of temperate regions are wholly absent.

Heer, O. Flora tertiaria Helvetiæ. Die tertiäre flora der Schweiz. 3 v. 4o. Winterthur. 1854-59. Bd. 1, 1854-55, t. p., pp. 6, 117, pl. 50;—bd. 2, 1850, pp. 4, 110, pl. 51-100;—bd. 3, 1859, pp. 6, 1-200, t. p., pp. 201-378, pl. 101-156, map.

Bd. 1 refers to Oeningen insects on pp. 10-11. The latter half of bd. 3 was republished in 1860 under the title: Untersuchungen über das klima u. s. w. (q. v.). See also the next entry, and Die klimatischen verhältnisse, u. s. w. 1860.

Heer, O. Introduction à la flore tertiaire de la Suisse traduite par Charles Th. Gaudin. *Arch. sc. phys. nat.*, 26: 293-314. 8o. Genève. 1854.

A translation of the preliminary matter in the first volume of the preceding; running references to the insects of the period occur here and there, especially on pp. 310, 311.

Heer, O. Ueber die fossilen insekten von Aix in der Provence. *Vierteljahrsschr. naturf. gesellsch. Zürich*, I, i: 1-40, taf. 1-2. 8o. Zürich. 1856.

The first important paper on Aix insects, cataloguing and describing sixty species of all orders, preceded by remarks on the general characteristics of the fauna, which is considered to have marked Mediterranean features.

Heer, O. Ueber die fossilen pflanzen von St. Jorge in Madeira. *Neue denkschr. allg. schweiz. gesellsch. gesamm. naturw.*, 15 (art. 2). 4o. Zürich. 1857. pp. 40, pl. 3.

Laparocerus Wollastoni described in a note on p. 14, and figured pl. 2, fig. 34.

Heer, O. [Sur l'étude de la flore tertiaire.] Lettre à Sir Ch. Lyell. *Bull. séances soc. vaud. sc. nat.*, 5: 145-151. pl. 8o. Lausanne. 1858.

American types among Oeningen insects, p. 148, and relation of the Oeogen insects and plants, p. 150.

Heer, O. Les charbons feuilletés de Durnten et d'Utznach; discours de M. le professeur O. Heer traduit par M. Charles-Th. Gaudin. *Arch. sc. phys. nat. (nouv. pér.)*, 2: 305-339. 8o. Genève. 1858.

In a note, p. 322, mentions the occurrence of species of *Donacia* and *Hyllobius* in the Durnten clays. This appears to be the only publication of the address.

Heer, O. Ueber die insectenfauna von Radoboj. *Amtl. ber. vers. deutsch. naturf.*, 32: 118-126. 4o. Wien. 1858.

A review of the subject based on the insects described in his general work. The author finds a commingling of European and Indian forms; perfect dragon-flies but no larvae, showing the deposit to be marine; the occurrence of plants in the same beds, with which the insects have special relations; a closer connection of Radoboj with Aix than with Oeningen.

Heer, O. Ueber die fossilen calosomen. 4o. [Zürich, 1860.] pp. 10. pl.

Published in the Programm of the Polytechnicum of Zürich. Seven species are described and figured from Locle and Oeningen, preceded by general remarks on fossil and recent Carabidae.

Heer, O. Die klimatischen verhältnisse des tertiärlands aus O. Heer's tertiärfloora der Schweiz, bd. 3. s. 327-350 im auszuge mitgetheilt. *Zeitschr. gesamm. naturw.*, 15: 1-42. 8o. Berlin. 1860.

Insects are treated of on pp. 11, 12.

Heer, O. Untersuchungen über das klima und die vegetationsverhältnisse des tertiärlandes. Mit profilen und einem kärtchen Europa's. Separatdruck aus dem dritten band der Tertiären flora

der Schweiz. 4°. Winterthur. 1860. t. p., pp. 170, pl. (clvi), carte.

Contains a couple of paragraphs, pp. 134-135 (334-335 of original) upon the tertiary insects and the testimony they bear to the tropical and American nature of the time in which they lived. Another paragraph on pp. 60-61 (260-261) shows how the condition of preservation of insects indicates the season of their entombment.

TRANSLATION. Recherches sur le climat et la végétation du pays tertiaire. Traduction de Charles Th. Gaudin. Avec des profils et une carte de l'Europe. 4°. Winterthur, Genève et Paris 1861. pp. 220, 22, pl. 1, carte.

The paragraphs on pp. 134-135 of the original are very much expanded on pp. 196-205 of this translation, and include full tables of the families of insects and their numerical representation in the different European deposits of tertiary time. Besides this, M. Gaston de Saporta in his *Examen des flores tertiaires de Provence*, pp. 133-171, gives a paragraph, pp. 152-153, concerning the insects of Aix. The remaining paragraph referred to above appears unchanged on p. 61.

Heer, O. On the fossil flora of Bovey Tracey. *Phil. trans.* 152: 1039-1086, pl. 55-71. 4°. London. 1862.

Insects from Bovey, p. 1082, pl. 68.

Heer, O. Beiträge zur Insektenfauna Oeningens. Coleoptera — geodephagen, hydrocanthariden, gyriden, brachelytren, clavicornen, lamellicornen, und buprestiden. *Natuurk. verhand. holl. maatsch. wetensch. Haarl.* [2], 16: 1-90, taf. 1-7. 4°. Haarlem. 1862.

Describes and figures 110 species, nearly all of them new. In an introduction of five pages, some general results of the study of Oeningens Coleoptera are tabulated, the most interesting of which appear to be that the fauna is more European in character than the flora and less rich in American forms; and that many species are related to those which now enjoy a wide distribution.

Heer, O. Ueber die fossilen kakerlaken. *Vierteljahrsschr. nat. gesellsch. Zürich*, 9, iv.: 273-302, pl. 80. Zürich. 1864.

The first attempt to classify the cockroaches of the carboniferous period, followed by a catalogue of the fifty-four known fossil species from all formations, and descriptions and figures of ten new species.

Heer, O. Die urwelt der Schweiz. Mit sieben landschaftlichen bildern, elf tafeln, einer geologischen uebersichtskarte der Schweiz und zahlreichen in den text eingedruckten abbildungen. 8°. Zürich. 1865. pp. 29, 622, pl. 7, (4), map, 368 figs. in text.

Contains a general account of the lias insects, pp. 81-96, pl. 7-8; of those of Oeningen, pp. 355-397, figs. 215-323; and of the pleistocene of Utznach, etc., pp. 500-503, figs. 352-359. Many forms are described and figured for the first time.

TRANSLATION. Le monde primitif de la Suisse. Traduit de l'allemand par Isaac Demole.

8°. Genève et Bale, 1872, pp. 16, 801, pl. 11, carte, 368 figs. in text.

The insects occupy p. 22, fig. 16 c (carboniferous); pp. 99-117, pl. 7-8 (lias); pp. 436-486, figs. 215-323 (Oeningen); and pp. 613-616, figs. 352-359 (Utnzach, etc.). Some few additions are made by the author.

TRANSLATION. The primitive world of Switzerland, with 560 illustrations. By Professor Heer. Edited by James Heywood. 2 vols. 8°. London. 1876. 1, pp. 16, 393, map, pl. 6; — 2, pp. 8, 324, pl. xi. and 4 scattered plates.

The insects occupy I, p. 20, fig. 16 c (carboniferous); pp. 81-95, pl. 7-8 (lias); II: pp. 9-56, figs. 211-323 (Oeningen); and pp. 167-170, figs. 352-358 (Utnzach, etc.).

Heer, O. Die urwelt der Schweiz. Zweite umgearbeitete und vermehrte auflage. 8°. Zürich. 1879. pp. 19, 713, taf. 8 (4), map, 417 figs. in text.

The insects are here somewhat enlarged over the previous editions, occupying pp. 24-25, fig. 34 (carboniferous); pp. 91-105, pl. 7-8 (lias); pp. 380-422, figs. 250-365 (Oeningen); and pp. 530-533, figs. 395-402 (Utnzach, etc.).

Heer, O. Fossile hymenopteren aus Oeningen und Radoboj. 4°. [N. P.] [N. D.] pp. 42, pl. 3. *Neue denkschr. allgem. schweiz. gesellsch. gesamt. naturw.*, 22. 4°. Zürich. 1867.

Catalogues and describes sixty-nine species. In an appendix, p. 42, notice is taken of Mayr's criticism of his former treatment of the fossil ants.

Heer, O. Flora fossilis arctica. Die fossile flora der polarländer. 6 v. 4°. Zürich. 1868-80. Bd. 1, 1868, pp. 7, 192, map, pl. 58; — bd. (2), 1869-71 (no t. p.), pp. 7; (i.) pp. 445-488, pl. 39-56; (ii.) pp. 41, pl. 10; (iii.) pp. 98, pl. 16; (iv.) pp. 51, pl. 15; — bd. 3, 1875, t. p., pp. 6; i. pp. 11, pl. 6; ii. pp. 138, (2), pl. 38; iii. pp. 29, pl. 5; iv. pp. 24; — bd. 4, 1877; i. pp. 7, 141, pl. 32; ii. t. p., pp. 122, pl. 31; iii. pp. 15, pl. 2; — bd. 5, 1878; i. pp. 4, 38, front., pl. 9; ii. t. p., pp. 58, pl. 15; iii. t. p., pp. 61, pl. 15; (iv.) pp. 11, pl. 4; (v.) pp. 6, pl. 1; — bd. 6, i, 1880. pp. (4), t. p., 34, 17, 38, pl. 9, 6, 3.

The contents will be found under the special papers.

Heer, O. Flora fossilis arctica. Die fossile flora der polarländer enthaltend die in Nordgrönland auf der Melville-insel, im Banksland, am Mackenzie, in Island und in Spitzbergen entdeckten fossilen pflanzen. Mit einem anhang über versteinerte hölzer der arctischen zone von Dr. C. Cramer. 4°. Zürich. 1868. pp. 7, 192, map, pl. 50.

Contains: Fossile insecten von Nordgrönland, pp. 129-130, pl. 19, 50; four species described. Miocene flora von Island: Gliedertiere, pp. 154-155, pl. 27; one beetle described. Forms vol. 1 of Heer's *Flora fossilis arctica*.

Heer, O. Flora fossilis alaskana. Fossile flora von Alaska. 4°. Stockholm. 1869. pp. 41, pl. 10. *Kongl. svenska vetensk.-akad. handl.*, 8, iv. 4°. Stockholm. 1869.

Describes *Chrysolites alaskanus*, p. 39, pl. 10.

Forms vol. 2, no. ii. of Heer's *Flora fossilis arctica*.

Heer, O. Die miocene flora von Spitzbergen. Vorgetragen . . . bei der versammlung der schweizerischen naturforschenden gesellschaft, den 23 August, 1869, in Solothurn. 8°. Solothurn [n. d.]. pp. 15. *Verhandl. Schweiz. naturf. gesellsch.*, 53: 156-168. 8°. Solothurn. 1870.

Zeitschr. gesamt. naturw. (2), 1: 318-324. 8°. Berlin. 1870.

Notices insects briefly at p. 12 (*Vorhandl.* 165, *Zeitschr.* 323).

TRANSLATION. La flore miocene du Spitzberg. *Ann. sc. nat.* (5) bot., 12: 302-311. 8°. Paris. 1869. Insects on pp. 308-309.

Heer, O. Preliminary report on the fossil plants collected by Mr. Whympfer in North Greenland in 1867. *Rep. Brit. assoc. adv. sc.*, 39: 8-10. 8°. London. 1870.

Two insects mentioned on p. 10.

Heer, O. Contributions to the fossil flora of North Greenland, being a description of the plants collected by Mr. Edward Whympfer during the summer of 1867. *Phil. trans.*, 159: 445-488, pl. 39-56. 4°. London. 1870.

Contains description, pp. 484-485, and figures, pl. 44, fig. 9, and pl. 56, fig. 14 of two insects, under the heading: Animals from Atanekerdluk. A. Insecta.

The paper forms vol. 2, no. i. of Heer's *Flora fossilis arctica*.

Heer, O. Die miocene flora und fauna Spitzbergens. Mit einem anhang über die diluvialen ablagerungen Spitzbergens. 4°. Stockholm. 1870. pp. 98, taf. 16. *Kongl. svenska vetensk.-akad. handl.*, 8, vii. 4°. Stockholm. 1870.

Zweiter abschnitt: Beschreibung der miocenen thiere Spitzbergens. 1. Insekten, pp. 73-78, pl. 16; contains descriptions of twenty-three insects, of which twenty are Coleoptera.

Forms vol. 2, no. iii. of Heer's *Flora fossilis arctica*.

Heer, O. Ueber die braunkohlen-flora des Zsilythales in Siebenbürgen. 8o. Pest. 1872. pp. 24, pl. 6. *Mitth. jahrb. ung. geol. anst., bd. 2, lief. i.* 8o. Pest. 1872.

Mentions the discovery of fossil insects in the tertiary beds of Tällya.

Heer, O. Die kreide-flora der arctischen zone, gegründet auf die von den schwedischen expeditionen von 1870 und 1872 in Grönland und Spitzbergen gesammelten pflanzen. 4o. Stockholm. 1874. pp. 138, pl. 38. *Kongl. svenska vetensk.-akad. handl., 12, vi.*

Insekten der komeschichten, pp. 91-92, pl. 17; describes two Coleoptera. Myriopoden, pp. 120-121, pl. 33; describes Julopis cretacea.

Forms vol. 3, no. ii. of Heer's *Flora fossilis arctica*.

Heer, O. Nachträge zur miocenen flora Grönlands, enthaltend die von der schwedischen expedition in sommer 1870 gesammelten miocenen pflanzen. 4o. Stockholm. 1874. pp. 29, pl. 5. *Kongl. svenska vetensk.-akad. handl., 13, ii.*

Insekten, p. 25, pl. 5; describes two species of Cistelites.

Forms vol. 3, no. iii. of Heer's *Flora fossilis arctica*.

Heer, O. Beiträge zur jura flora Ostsiбириens und des Amurlandes. t. p., pp. 122, pl. 31. *Mém. acad. imp. sc. St. Pétersb., (7), 22, xii.* 4o. St. Pétersbourg. 1876.

Elateris sibiricus is described on p. 41.

Forms vol. 4, no. ii. of Heer's *Flora fossilis arctica*.

Heer, O. Flora fossilis helvetica. Die vorweltliche flora der Schweiz. 4o. Zürich [1876-] 1877. t. p., pp. 6, 182, pl. 70.

Describes, p. 76, and figures, pl. 27, a single beetle from the keuper of Rütihard, canton Basel, and a neuropteran on p. 77, pl. 29, from the trias of Mythen, canton Schwyz.

Heer, O. Notes on fossil plants discovered in Grinnell Land by Captain H. W. Feilden, naturalist of the English north polar expedition. *Quart. Journ. geol. soc. Lond., 34: 66-72.* 8o. London. 1878.

Mentions, p. 69, the occurrence of a single elytron of a beetle with the plants.

Heer, O. Ueber einige insektenreste aus der raetischen formation Schonens. *Förhandl. geol. foren. Stockh., 4, vii: 192-197, taf. 13.* 8o. Stockholm. 1878.

Description and figures of eight Coleoptera.

Heer, O. Die miocene flora des Grinnell-Landes gegründet auf die von Cap. H. W. Feilden und Dr. E. Moss in der nähe des Kap Murchison gesammelten fossilen pflanzen. 4o. Zürich. 1878. pp. 38, front., pl. 9.

Describes and figures a single beetle.

Forms vol. 5, no. i. of Heer's *Flora fossilis arctica*.

Heer, O. Primitiva florum fossilis sachalinensis. Miocene flora der insel Sachalin. t. p., pp. 61, pl. 15. *Mém. acad. imp. sc. St. Pétersb., 25, vii.* 4o. St. Pétersbourg. 1878.

Describes a single beetle.

Forms vol. 5, no. iii. of Heer's *Flora fossilis arctica*.

Heer, O. See also de **Borre, P., Hassencamp, E., Loew, H., and Mayr, G. L.**

Helwing, Georg Andreas. Lithographia angerburgica, sive lapidum et fossilium, in districtu angerburgensi & ejus vicinia, ad trium vel quatuor milliarium spatium, in montibus, agris, arenofodinis & in primis circa lacuum littora & fluviorum ripas, collectorum brevis & succincta consideratio additis rariorum aliquot figuris aeri incisim, cum præfatione auctoris & indicibus necessariis. 4o. Regimonti. 1717. pp. (14), 96 (13), front. pl. 11.

Ibid. Pars II. In qua de lapidibus figuratis ad

triplex regnum minerale, vegetabile et animale re-actis aliisque fossilibus in districtu angerburgensi ejusque vicinia noviter detectis, et in specie de origine lapidum literas experimentivum, occasione lapidis cvjvsdam resaviensis, literas latinas L. V. R. repræsentantis, succincte disseritur; additis iconibus rariorum. 4o. Lipsiæ. 1720. pp. 132, pl. 6.

On p. 78 is given a short notice of insects (formicæ, blattæ, tipulæ, millipedes aliæque insecta) in amber.

Hensche, A. Ueber den bestand und die neueren erwerbungen der bernsteinsammlung. *Schrift. phys.-ökon. gesellsch. Königsb., 5, sitzungsb., 14-15.* 4o. Königsberg. 1864.

History of the growth and present extent of the collection, rich in insect inclosures.

Hensche, A. Bericht über die bernsteinsammlung der königl. physikalisch-ökonomischen gesellschaft. *Schrift. phys.-ökon. gesellsch. Königsb., 6: 210-215.* 4o. Königsberg. 1865.

Contains 883 specimens, with insect inclosures, of which over 6000 are Diptera; tables of the different groups are given on pp. 211-213.

Henslow, John Stevens. Supplementary observations to Dr. Berger's account of the Isle of Man. *Trans. geol. soc. Lond., v: 482-505.* 4o. London. 1821.

Under the head of diluvial deposits, he refers, p. 501, to a bed of peat in the parish of Kirk Balaff, "containing a vast number of the exuviae of beetles, bees and their nests, crushed together with seed vessels, rotten, but having their external coating well preserved. . . . In general the hard wings are the only parts of the beetles which are preserved, and these are in appearance as fresh as on a living insect. Dr. Leach was enabled to identify a few with species at present existing in England."

Hepp, Philipp. Ueber die bei Dürkheim aufgefundenen versteinerte phryganeen gehäuse. *Jahresb. Föllich., 2: 19-23.* 8o. Neustadt a. d. Haardt 1844.

An abstract is given in Oken's *Isis* for 1846. p. 70.

Herold, Johann Moritz David. See **Koehler, F. Hessel, Johann Friedrich Christian.** See **Koehler, F.**

von Heyden, Carl. Chrysobothris veterana und Blabera avita, zwei fossile insekten von Solenhofen. *Palaontogr., 1: 99-101, pl. 12, figs. 4-5.* 4o. Cassel. 1847.

von Heyden, C. Reste von insekten aus der braunkohle von Salzhäusen und Westerburg. *Palaontogr., 4: 198-201, pl. 37-38.* 4o. Cassel. 1856.

Divided into: Dicerca Taschei Heyden aus der braunkohle von Salzhäusen, pp. 198-199, pl. 37, figs. 1-4. — Gänge von insekten-larven in hölzern der braunkohle von Salzhäusen, pp. 199-200, pl. 38; borings of an Anobium, a Priouus, and a buprestid. Fliegen aus der braunkohle der grube Wilhelmsfund bei Westerburg in herzogthum Nassau, pp. 200-201, pl. 37, figs. 6-8; Three species described.

von Heyden, C. Fossile insekten aus der braunkohle von Sieblos. *Palaontogr., 5: 115-120, pl. 23.* 4o. Cassel. 1858.

Description of ten species, mostly beetles.

von Heyden, C. Fossile insekten aus der rheinischen braunkohle. *Palaontogr., 8: 1-15, pl. 1, 2, figs. 1-13.* 4o. Cassel. 1859.

Description of twenty-five insects of various orders.

von Heyden, C. Fossile insekten aus der braunkohle von Sieblos (nachtrag). *Palaontogr., 8: 15-17, pl. 3, figs. 7-9.* 4o. Cassel. 1859.

Description of a beetle and two Hemiptera.

von Heyden, C. Nachricht von fossilen gallen auf blättern aus den braunkohlengruben von Salzhäusen. *Ber. oberhess. gesellsch. nat. heilk., 8: 63.* 8o. Giessen. 1860.

Probably the gall of a Phytoptus, on Salix.

von Heyden, C. Gliederthiere aus der braunkohle des Niederrhein's, der Wetterau und der Röhn. *Palaeontogr.*, 10: 62-82, pl. 10. 4°. Cassel. 1862.

Description of a crustacean, two arachnids, and thirty-two hexapods of various orders.

von Heyden, C. See also **Hassencamp, E.**
von Heyden, Carl und **Lucas.** Bibioniden aus der rheinischen braunkohle von Rott. *Palaeontogr.*, 14: 19-30, pl. 8, 9, figs. 1-12. 4°. (Cassel.) 1865.

Description of twenty-three species, mostly Protomyia, and remarks on three or four others.

von Heyden, C. und **L.** Fossile insekten aus der braunkohle von Salzhausen. *Palaeontogr.*, 14: 31-35, pl. 9, figs. 13-22. 4°. (Cassel.) 1865.

Description of twelve insects, mostly Coleoptera, and remarks on three others.

von Heyden, C. und **L.** Käfer und polypen aus der braunkohle des Siebengebirges. *Palaeontogr.*, 15: 131-159 [käfer, 131-157], pl. 22-24. 4°. Cassel. 1866.

With the following, reprinted under the title: Käfer und polypen aus der braunkohle des Siebengebirges. — Dipteren-larve aus dem tertiär-thon von Nieder-Flörshheim in Rhein-Hessen, mit 3 tafeln abbildungen. Besonderer abdruck aus den Palaeontographis, xv. 4°. Cassel. 1866. pp. 1-29, pl. 1-3. Describes sixty beetles.

von Heyden, C. und **L.** Dipteren-larve aus dem tertiär-thon von Nieder-Flörshheim in Rhein-Hessen. *Palaeontogr.*, 15: 157, pl. 23, fig. 22. Cassel. 4°. 1866.

See the preceding entry.

von Heyden, Lucas. Fossile dipteren aus der braunkohle von Rott im Siebengebirge. 4°. Cassel. 1870. t. p., pp. 2, 30, pl. 1-2. *Palaeontogr.*, 17: 237-266, pl. 44-45. 4°. Cassel. 1870.

Describes forty-one species of seventeen genera, besides seven larvae of two different genera. In an appendix, pp. 265-266, a few details are given of other insects, and the collections in which they are found.

Hislop, Stephen. On the age of the fossiliferous thin-bedded sandstone and coal of the province of Nágpur, India. *Quart. journ. geol. soc. Lond.*, 17, 1: 346-354. 8°. London. 1861.

Refers to the discovery of Blattariae and Coleoptera at Kotá, probably liassic.

Hislop, S. Supplemental note on the plant-bearing sandstones of central India. *Quart. journ. geol. soc. Lond.*, 18, 1: 36. 8°. London. 1862.

Discovery of more insects at Kotá.

Hitchcock, Charles Henry. See **Hitchcock, E.**
Hitchcock, Edward. Ichnology of New England. A report on the sandstone of the Connecticut valley, especially its fossil footmarks, made to the government of the commonwealth of Massachusetts. 4°. Boston. 1858. pp. 12, 220, pl. 60.

Refers to prints, supposed to be those of insects, on pp. 147-160, 165-166, 188-189, and mentions an insect larva, pp. 7-8. The figures of these are distributed on plates 7, 24, 27, 28, 29, 30, 31, 42.

Hitchcock, E. Supplement to the Ichnology of New England, a report to the government of Massachusetts in 1863. 4°. Boston. 1865. pp. 10, 96, pl. 20.

Appendix B. Descriptive catalogue of the specimens in the Hitchcock ichnological cabinet of Amherst college; prepared by C. H. Hitchcock. pp. 41-88; tracks of insects, pp. 13-17; tracks of myriapods, pp. 17-18.

Hitchcock, E. See also **Dana, J. D.**
Hoeninghaus, Friedrich Wilhelm. Phryganea mombachiana. 4°. Crefeld. 1844. 1 engr. p. with illustr.

Text in German, accompanied by a French translation of the text (with no heading), 1 p. 8°. See also **Hagen, H. A.**, and **Michelin, H.**

Holl, Friedrich. Handbuch der petrefactenkunde; mit einer einleitung über die vorwelt der organischen wesen auf der erde, von Dr. Ludwig Chonlaut. 1. es bändchen. 16°. Dresden. 1829. pp. 8, 489. *Allg. taschenbibl. der naturwiss.*, 9ter theil.

A brief account of fossil insects under the heading Entomolithen, pp. 138-141, with description of two species of Formica from amber.

Holl, F. Handbuch der petrefactenkunde; eine beschreibung aller bis jetzt bekannten versteinierungen aus dem thier- und pflanzenreiche zur leichten erkennung und auffindung der fossilien; mit einer einleitung über die vorwelt der organischen wesen auf der erde, von Dr. Ludwig Choulant. Neue ansage. 16°. Quedlinburg und Leipzig. 1843. pp. 8, 489. Published in four parts with continuous pagination, the t. p. of pt. 2-4 not included.

Appears to differ from the preceding only in title.

Hope, Frederic William. Observations on succinic insects. *Trans. ent. soc. Lond.*, 1: 133-147; 2: 46-57, pl. 7. 8°. London. 1836-37.

General remarks on the insects found in amber and gum animé, followed by a list of insects hitherto noticed by the author or known to Berendt. The species are all claimed as distinct from the recent, and to be tropical in their affinities.

Hope, F. W. Description de quelques insectes non décrits trouvés dans la résine animée. *Mag. de zool.*, [2] 4: ins., pl. 87-89. 8°. Paris. 1842.

Three coleoptera are described and figured in detail.

Hope, F. W. Observations on the fossil insects of Aix in Provence, with descriptions and figures of three species. *Trans. ent. soc. Lond.*, 4: 250-255, pl. 19, figs. 1-3. 8°. London. 1847.

Contains a list of genera occurring at Aix and "descriptions of three fossil species of insects" (Balanius, Rhynchaenus, Corizus) from same locality.

Hope, F. W. Descrizione di alcune specie d' insetti fossili pel Rev. G. F. Hope; memoria presentata all' Accademia degli aspiranti naturalisti, in Dicembre 1847, ed inserita negli annali della stessa [with notes by A. Costa]. 8°. (Napoli) N. D. pp. 7, pl. *Ann. acc. aspir. nat. Napoli*, 1847. pp. —, tav. 10. 8°. Napoli.

Five species described and figured.

Horn, George Henry. Notes on some coleopterous remains from the bone cave at Port Kennedy, Pennsylvania. *Trans. Amer. ent. soc.*, 5: 241-245. 8°. Philadelphia. 1876.

Collected, without change of pagination, with other papers under the title: Miscellaneous papers on American coleoptera. Eleveo species are described.

Hueber, Georgius Ludovicus. See **Beringer, J. D. A.**

Hünfeld, L. Ueber bernstein-insecten. *Oken, Isis*, 1831: "2000" [1700]. 4°. Leipzig. 1831.

A list of insects is given by Burmeister.

Humbert, Alois. See **Scudder, S. H.**

John, Johann Friedrich. Naturgeschichte des succins, oder des sogenannten bernsteins; nebst theorie der bildung aller fossilen, bituminösen, inflammabilien des organischen reichs und den analysen derselben. 2 th. 16°. Köln. 1816. 1er th. pp. 13, 438; 2er th. pp. 6, 125 (21).

A list of insects found in amber, arranged by genera, will be found in I. pp. 221-223; and in I. pp. 169-176, a bibliography of amber literature.

Joly, Nicolas. Incontestablement, le Proposiptoma de Latreille est un éphémérien. *Mém. acad. sc. Toulouse*, [8], 2: 188-189. 8°. Toulouse. 1880.

At the end of his paper, p. 189, he refers a secondary fossil figured by Brodie to this genus.

Jones, Thomas Rupert. Fossil insects. *Geol. mag.*, 7: 348. 8°. London. 1870.

Correction of geological horizon of certain insects described by Westwood.

Jones, T. R. See also **Heer, O.**; **Mantell, G. A.** **Jordan, Hermann** und von **Meyer, Hermann.** Ueber die crustaceen der steinkohlenformation von Saarbrücken. *Palaeontogr.*, 4: 1-15, pl. 1-2. 4°. Cassel. 1854.

Describes, among other things, *Adelophthalmus* (*Eurypterus*) *granosus*, pp. 8-12, pl. 2, figs. 1-2, afterward considered a cockroach by Goldenberg and others.

Jordan, Johann Ludwig. Mineralogische berg- und hüttenmännische reisebemerkungen, vorzüglich in Hessen, Thüringen, am Rheine und in sayn-altenkirchnerischen gebiete. 8°. Göttingen. 1803.

Not seen; said to contain, on p. 199, some reference to fossil insects.

Judd, John Wesley. The secondary rocks of Scotland. Second paper. On the ancient volcanoes of the Highlands and the relation of their products to the mesozoic strata. *Quart. journ. geol. soc. Lond.*, 30: 220-301, pl. 22-23. 8°. London. 1874.

Mentions, p. 274, the discovery of "elytra of two species of beetles" in lacustrine deposits at Ballypally, Co. Antrim, Ireland, which he refers to the miocene. These beetles were figured by Bailely (q. v. in Appendix).

Karg, Joseph Maximilian. Ueber den steinbruch zu Oeningen bei Stein am Rheine und dessen petrefacte. *Denkschr. vaterl. gesellsch. aertze u. naturf. Schwabens*, 1: 1-73. 8°. Tübingen. 1805.

Not seen. It contains references to the insects, and is mentioned by Heer.

Kawall, J. H. Organische einschlüsse im bergkrystall. *Bull. soc. imp. nat. Moscou*, 1876, no. 3, pp. 170-173. 8°. Moscou. 1876.

Describes a caterpillar, *Tinetes crystalli*, found in quartz from Siberia.

Keferstein, Christian. Die naturgeschichte des erdkörpers in ihren ersten grundzügen dargestellt. 2 v. 8°. Leipzig. 1834. 1^{er} theil, pp. 11, 394; 2^{er} theil, pp. 4, 896.

Abtheilung 2 (paläontologie), sechster abschnitt: Die fossilen insekten, pp. 325-347; under 7^{ter} abschnitt the myriapods and arachnids F and G, pp. 370-371, 375-376, 378. The species are enumerated in the two last-mentioned groups, but only the genera in the hexapods; the names are very frequently misspelled.

Kendall, J. D. Interglacial deposits of West Cumberland and North Lancashire. *Quart. journ. geol. soc. Lond.*, 37: 29-39, pl. 3. 8°. London. 1881.

Records the occurrence of elytra of beetles in deposits at Drigg, p. 34, and St. Bees, p. 35, without mention of names.

Kirby, W. F. A synonymic catalogue of diurnal Lepidoptera. 8°. London. 1871. pp. 7, 690. Supplement, March, 1871-June, 1877. 8°. London. 1877. pp. 7, 691-883.

Includes the few fossil species.

Kirkby, James W. On the remains of insects from the coal measures of Durham. *Geol. mag.*, 4: 388-390, pl. 17, figs. 6-8. 8°. London. 1867.

Describes and figures without names two or three orthopteron insects from near Claxheugh.

Knorr, Georg Wolfgang. Lapidés, ex celeberrimorum virorum sententia diluuii universalis testes, quos in ordinés ac species distribuit, suis coloribus

exprimit aeris incisus in lucem mittit et alia naturae miranda addit: — Sammlung von merkwürdigkeiten der natur und den alterthümern des erdbodens, zum beweis einer allgemeinen stündfluth nach der meynung der berühmtesten maenner aus dem reiche der steine gewiesen und nach ihren wesentlichen arthen, eigenschafften, und ansehen, mit farben ausgedruckt, und in kupffer herausgegeben, in Nürnberg 1750. With second title: Sammlung von merckwürdigkeiten der natur und alterthümern des erdbodens welche petrificirte körper enthält ausgewiesen und beschrieben (erster theil). fo. Nürnberg. 1755. 2 t. p., pp. (2), 32, t. p. to atlas, tab. 1-38 (= 57 pl.).

Pl. 33 contains six figures, five of insects from Oeningen, the only distinguishable ones being three of odonate larvae, explained on p. 27. To this work is appended, pp. 20-32, a letter from Mylius to von Haller, entitled Beschreibung einer neuen gründländischen thierflaoze. Bound up with the same is the following: —

Knorr, G. W. Die naturgeschichte der versteinierungen zur erläuterung der knorrischen sammlung von merkwürdigkeiten der natur herausgegeben von Johann Ernst Immanuel Walch. Erster theil. fo. Nürnberg. 1773. pp. (6), 187.

This contains a further explanation of the plate on p. 181 in which the insects are called libellen, and which is preceded by an account (pp. 171-180) of what was then known of fossil insects, entitled Die entomolithen und helmtholithen.

Koch (Friedrich) Carl Ludwig und **Berendt (Georg Carl).** Die im bernstein befindlichen crustaceen, myriapoden, arachniden und apteren der vorwelt. fo. Berlin. 1854. t. p., pp. 4, 124, pl. 17. Berendt, *Bernst. befindl. org. reste vorw.*, 1^{er} bd. 1e abth.

Edited, with additions of importance by Menge. 10 Myriapoda, 123 Arachnida, and 21 Thysanura are described and figured, besides numerous others briefly described in the notes which Menge adds to nearly every species, nearly or quite doubling the extent of the text. Menge adds on pp. 7-8 a list of the species in his collection.

Koehler, Friedrich. Ueber den libellulit von Solenhofen. *Zeitschr. f. mineral. (Taschenb. ges. mineral., jahrg. 20)*, bd. 2: 231-233, pl. 7, fig. 3. 16°. Frankfurt a. M. 1826.

With note by Hessel giving the opinion of Herold. The insect is referred to *Aeschna*.

TRANSLATION: Account of a libellulite found at Solenhofen. *Edinb. new phil. journ.*, 2: 195, pl. 3, fig. 4. 8°. Edinburgh. 1826.

The note is not appended.

Kolenati, Friedrich August. Ueber phryganiden im bernstein. *Abhandl. böhm. gesellsch. wissenschaft.*, [5], 6: 15. 4°. Prag. 1851.

Eight species or varieties are named but not described.

König, Charles. Icones fossilium sectiles. Centuria prima. fo. (London?, 1825) no t. p., pp. (4), pl. 19.

[**Krantz, August.**] Verzeichniss der von Dr. Krantz gesammelten, von Herrn Senator v. Heyden und Herrn Hauptmann v. Heyden in Frankfurt a. M. und von Herrn Dr. Hagen in Königsberg in der Palaeontographica bis jetzt beschriebenen und abgebildeten insecten, etc., aus dem braunkohlengebirge von Rott im Siebengebirge. *Verhandl. naturh. ver. preuss. Rheinl. u. Westph.*, 24: 313-316. 8°. Bonn. 1867.

Enumerates 73 Coleopt., 25 Dipt., 11 Neuropt., 4 Hymenopt., 3 Arachn., 2 Hemipt., 1 Lepidopt., 1 Orthopt., — 120 species.

de Lafontaine, Jules. See **de Borre, A. P.** **Landgrebe, Georg.** Ueber einen im polir-schiefer des Habichts-waldes aufgefundenen käfer. *Neues jahrb. f. mineral.*, 1843: 137-142. 8°. Stuttgart 1843.

Describes an *Aphodius*.

Langius, Carolus Nicolaus. *Historia lapidum figuratorum Helvetiae, ejusque viciniae, in qua non solum enarrantur omnia eorum genera, species et vires, aeneisque tabulis repraesentantur, sed insuper adducuntur eorum loca nativa, in quibus reperi solent, ut cuilibet facile sit eos colligere, modo adducta loca adire libeat.* 8°. Venetiis. 1708. 2 t. pp., pp. (26), 165, tab. 52.

A single "Musca" from Oeningen is figured on pl. 7, fig. 5 and mentioned on p. 39.

Lartigue. Échantillons de bois fossiles provenant du gault de Lottinghen. *Ann. soc. ent. France*, (5), 6, *bull. ent.*, p. 107. 8°. Paris. 1876.

Exhibition of fossil wood perforated by insects, afterward reported on by Brongniart, C. (q. v.)

Latreille, Pierre André. See **Faujas-de-Saint-Fond**, B.

Leach, William Elford. See **Henslow**, J. S.

LeConte, John Lawrence. Address before the American association for the advancement of science at Detroit, Michigan, August 13, 1875. 8°. Salem. 1875. t. p., pp. 18. *Proc. Amer. assoc. adv. sc.*, xxiv: 1-18. 8°. Salem. 1876.

The distribution of certain N. American beetles directly indicates a survival from cretaceous or even earlier times, pp. 4-7.

LeConte, J. L. See also **Dana**, J. D.

Lefebvre, Alexandre. Observations relatives à l'empreinte d'un lépidoptère fossile (Cyllo sepulta) du Docteur Boisduval. *Ann. soc. ent. France* [2], 9: 71-88, pl. 3, ii.

An argument to show that Boisduval had wrongly interpreted both theuration and the markings of the wings. Reproduced in Scudder's *Fossil butterfly flies*, pp. 17-25, pl. 1, figs. 14-16.

Leidy, Joseph. See **Deane**, J.

Lesquereux, Leo. Botanical and palaeontological report on the geological state survey of Arkansas. Owen, *Second rep. geol. reconn. Arkansas*, pp. 295-399, pl. 1-6. 8°. Philadelphia. 1860.

Contains description, p. 314 and figure, pl. 5, fig. 11, of *Blattina venusta* from carboniferous rocks of Frog Bayou.

Lesser, Friedrich Christian. *Lithotheologie, das ist: Naturliche historie und geistliche betrachtung derer steine.* 16°. Hamburg. 1735. pp. 48, 300, (52), pl. 10.

In the seventh chapter, fourth division, fifth book: Von versteinerten thieren auf erden, so kein blut haben, pp. 553-561, he reviews what is known of fossil insects in his day.

In the Hamburg edition of 1751 (pp. 48, 1488, pl. 10) the same appears on pp. 633-639.

Lhwyd, E. See **Luidius**, E.

van der Linden, Pierre Léonard. Notice sur une empreinte d'insecte, renfermée dans un échantillon de calcaire schisteux de Sollenhoven, en Bavière. 4°. (Bruxelles. 1827.) pp. 9, pl. *Nouv. mém. acad. roy. sc. Brux.*, 4: 245-253, pl. 4°. Bruxelles. 1827.

Describes and figures *Aeschna antiqua*.

von Linné, Carl. Oeländska och gothländska resa på riksens högloflige ständers befallning förättad åhr 1741; med anmärkningar uti oeconomien, natural-historien, antiquiteter, &c. med åttillige figurer. 16°. Stockholm och Upsala. 1745. pp. (14), 344, 30, 2 maps, pl. figs.

Contains a mere mention, p. 59, of finding some small insects in a fossil state near Glömminge in Oeland.

TRANSLATION: *Reisen durch Oeland und Gothland welche auf befehl der hochlöblichen reichstände des königreichs Schweden im Jahr 1741 angestellt worden.* 16°. Halle. 1764. pp. (32), 364, (24), 2 maps, 2 pl.

The same on p. 68.

von Linné, C. *Wästgöta resa på riksens högloflige ständers befallning förättad år 1746.* Med anmärkningar uti oeconomien, naturkunngheten, antiquiteter, inwårnarnes seder och lefnads-sätt, med tilhörige figurer. 16°. Stockholm. 1747. pp. (12), 284, (19), pl. 5.

Refers, on p. 24, to finding beetles in the limestone of Kinnekulle.

TRANSLATION: *Reisen durch Westgothland, welche auf befehl der hochlöblichen reichsstände des königreichs Schweden im jahr 1746 angestellt worden.* 8°. Halle. 1765. pp. (20), 318, pl. 7.

Not seen. The same (probably) is found on p. 30.

[**von Linné**, C.]. *Museum tessinianum, opera illustrissimi comitis, Dom. Car. Gust. Tessin. fo. Holmiae.* 1753. pp. (8), 123, (9), pl. 14.

On p. 98 he enters *Entomolithus coleoptri*, unknown locality; which he likens to a carabid.

Lippi. [Lettre à M. Dodart.] *Hist. acad. sc.*, 1705: 36-37. 4°. Paris. 1706.

Account of the discovery of supposed bee-cells (probably corals) in the rocks of the Montagnes de Siout, Upper Egypt.

* * It is somewhere stated that Lippi has mentioned the fossil insects of Oeningen.

Loew, Hermann. *Dipterologische beiträge [I abtheilung]. Öffentl. prüf. Friedr.-Wilh. gymn. Posen*, 1845: 1-52, pl. 4°. Posen. 1845.

Contains descriptions and figures of three copal Diptera.

Loew, H. *Ueber den bernstein und die bernstein fauna.* 4°. Berlin. 1850. pp. 44. *Progr. königl. realsch. Meseritz*, pp. 1-44. 4°. Meseritz. 1850.

Separate, Berlin edition not seen; of the other, pp. 28-44 are occupied by a general systematic review of the amber Diptera, of which many new genera and species are indicated with brief or no description. More than 10,000 specimens were examined by Loew, and about 575 species indicated.

Loew, H. *Ueber die dipteren fauna des bernsteins.* 4°. Königsberg. 1861. pp. 13. *Amtl. ber. versamm. deutsch. naturf.*, 35: 88-98. 4°. Königsberg. 1861.

An important discussion of the problems suggested by a study of the Diptera of the Prussian amber, of which at this time 850 species were known to the author, and of which over 650, belonging to 101 genera, had been satisfactorily determined. These insects belong to a single district fauna, and represent only a fragment of that, viz.: those low flying Diptera which love moist places sheltered from the wind. The generic types which existed in the amber period have probably been preserved down to our time. Of all living types North American Diptera, especially those found from lat. 32° to 40° most nearly resemble the amber fauna; next to these, those of Europe.

TRANSLATION: *On the Diptera or two-winged insects of the amber-fauna.* 8°. New Haven. 1864. pp. 20. *Amer. journ. sc.*, [3], 37: 305-324. 8°. New Haven. 1864.

Translation by R. von Osten Sacken, who adds a single brief note on living species common to Europe and America.

Loew, H. *Monographs of the Diptera of North America; prepared for the Smithsonian institution. Part I;* edited, with additions, by R. Osten Sacken. 8°. Washington. 1862. pp. 24, 221, pl. 2.

References to amber Diptera, partly original, will be found on pp. 11, 17.

Loew, H. *Berichtigung der generischen bestimmung einiger fossilen dipteren.* *Zeitschr. gesamm. naturw.*, 32: 180-191, taf. 5. 8°. Berlin. 1868.

A revision of the tertiary *Biblioidae* described by Heer.

Lortet, Louis, et **Chantre**, Ernest. *Études paléontologiques dans le bassin du Rhone; période quaternaire.* *Arch. mus. hist. nat. Lyon*, 1: 59-130. 4°. Lyon. 1876.

Mentions the occurrence of insects at La Boisse, p. 104, and Sonnaz, p. 105.

Lubbock, Sir John. The president's address. *Trans. ent. soc. Lond.*, [3], 5, *Journ. of proc.*, 113-131. 8°. London. 1867.

Records, pp. 128-129, the progress during the year in the study of fossil insects.

Lubbock, J. On the origin and metamorphoses of insects. 16°. London. 1874. pp. 16, 108.

Contains a chapter [v] on the origin of insects, in which, on p. 86, is a general statement of the geological appearance of the different orders of insects.

Lubbock, J. Address read before the entomological society of London at the anniversary meeting on the 19th January, 1881. 8°. London. 1881. pp. 17.

Refers, pp. 12-13, to recent researches on fossil insects, particularly by Goss and Scudder.

Lucas, Hippolyte. [Note sur les espèces de coléoptères décrites par Dalman dans son mémoire: Om insekter inneslutne i copal.] *Bull. séances soc. entom. France*, 1878, no. 7, p. 75. 8°. Paris. 1878.

Remarks on the omission of these insects from Gemminger and Harold's Catalogue coleopterorum, and cites the species of all orders figured by Dalma.

Luidius, Edvardus. Edvardi Luidii apud oxonienses cimeliarchae ashmoleani Lithophylacei britannici ichnographia. Sive lapidum aliorumque fossilium britannicorum singulari figura insignium, quotquot hactenus vel ipse invenit vel ab amicis accepit: distributio classica: scrinii sui lapidarii repertorium cum locis singulorum natalibus exhibens; additis rariorum aliquot figuris aere incisam: cum epistolis ad clarissimos viros de quibusdam circa marina fossilia et stirpes minerales praesertim notandis. Editio altera: novis quorundam speciminum iconibus aucta; subjicitur auctorio praecellit de stellis marinis, etc. 8°. Oxonii. 1760. pp. (16), 156, (4), pl. 25.

Epistola 3. Summarium literarum V. C. D. Richardi Richardson, M.D. De entrocho lapide, conchitis, et lithophytis seu plantis mineralibus agrif eboracensis; de bufonibus medicis saxis inclusis, et depictis aliquot in schisto carbonaria insectis, pp. 107-114, pl. 4, fig. 197 (4 figs). First edition, Lipsiae, 1699, not seen.

Lyell, Sir Charles. On the boulder formation or drift, and associated fresh-water deposits composing the mud cliffs of eastern Norfolk. *Proc. geol. soc. Lond.*, 3: 171-179. 8°. London. 1840.

Mention is made, p. 175, of the discovery of three elytra of Coleoptera, which Curtis determines to be identical with living British species of *Donacia* and *Copris*.

Lyell, C. Elements of geology, or The ancient changes of the earth and its inhabitants as illustrated by geological monuments; sixth edition greatly enlarged and illustrated with 770 woodcuts. 8°. London. 1865. pp. 16, 794.

Contains references to fossil insects and some illustrations of them on pp. 243, 250, 255, 331, 425, 491. Earlier editions not examined.

MacCulloch, John. On animals preserved in amber, with remarks on the nature and origin of that substance. *Quart. Journ. sc. lit. arts.*, 16: 41-48. 8°. London. 1823.

Froriep, *Notizen*, 6, no. 114, pp. 49-51. 4°. Erfurt. 1823.

Mainly devoted to describing the methods of distinguishing amber from other gums; insects and other animals are only mentioned in a general way.

McIntire, E. S. See **Elrod, M. N.**, and **McIntire, E. S.**

McLachlan, Robert. Note sur l'insecte fossile décrit par M. P. deBorre sous le nom de *Breyeria*

borinensis. *Comptes rendus soc. ent. Belg.*, (2), no. 41: 5-6. 8°. Bruxelles. 1877.

Ann. soc. ent. Belg. 20: 36-37. 8°. Bruxelles. 1877. Considers the insect an ephemerid.

McLachlan, R. Did flowers exist during the carboniferous epoch? *Nature*, 19: 554. 4°. London. 1879.

Breyeria is an ephemerid.

McLachlan, R. *The same*. *Nature*, 20: 5-6. 4°. London. 1879.

Response to Mr. Wallace, disputing the lepidopterous nature of *Breyeria borinensis*.

McLachlan, R. See **Anon.**

Mahr, Carl Hermann. Beitrag zur Kenntniss fossilen Insekten der Steinkohlenformation Thüringens. *Neues Jahrb. f. Mineral.*, 1870: 282-285, figs. 8°. Stuttgart. 1870.

Description and figure of two species of *Blattina* from Ilmeau.

Malepeyre. See **Buckland, W.**

Malfatti, Giovanni. Osservazioni sopra alcuni insetti fossili dell'ambra e del copale. 8°. Milano. 1878. pp. 15. *Atti soc. ital. sc. nat.*, 21: 181-195. 8°. Milano. 1878.

Of a general nature, but contains at the close a list of additions to the Museo civico with remarks; and three pages of bibliography are appended.

Malfatti, G. Due piccoli imenotteri fossili dell'ambra siciliana. 4°. [Roma. 1881.] pp. 4, figs. *Atti accad. linc.*, (3), *trans.*, 5: 80-83, 2 figs. 4°. Roma. 1881.

Describes and figures a *Myrmar* and a *Tapinoma*.

Mantell, Gideon Algernon. A tabular arrangement of the organic remains of the county of Sussex. *Trans. geol. soc. Lond.*, (2), 3: 201-216. 4°. London. 1829.

Reference is made on p. 201 to the occurrence of larval cases of *Phryganidae* in the silt or blue clay of Lewes Levels.

Mantell, G. A. The wonders of geology. First American from third London edition. 2 vols. 16°. New Haven. 1839. — Vol. 1, pp. 16, 1-428, front, pl. 4; vol. 2, pp. 7, 429-804 (24), pl. 6-10.

"Fossil insects" (of Aix). 1: 247-250, tab. 45. "Insects of the coal formation." 2: 679-680.

Mantell, G. A. *The same*: 4th ed. London, 1840. 6th ed. 2 v. 16°. London, 1848. — Vol. 1, pp. 15, 482; vol. 2, pp. 483-938, plates as above. 7th ed. revised and augmented by T. Rupert Jones. 2 v. 16°. London. — Vol. 1, pp. 24, 1-480, (1857); vol. 2, pp. 16, 481-1019 (1858).

Mantell, G. A. The medals of creation, or First lessons in geology and in the study of organic remains. 2 vols. 16°. London. 1844. — Vol. 1, pp. 28, 1-456, pl. 1, 3-6; vol. 2, pp. 6, 457-1016, pl. 2.

Fossil insects and spiders, pp. 570-584, with woodcuts 122-124.

Mantell, G. A. *The same*: 2d edition entirely rewritten. 2 v. 16°. London. 1854. — Vol. 1, pp. 32, 1-446; vol. 2, pp. 11, 447-930, plates as before.

Mantell, G. A. Notes on the wealden strata of the Isle of Wight, with an account of the bones of iguanodonts and other reptiles discovered at Brook Point and Sandown Bay. *Quart. Journ. geol. soc. Lond.*, 2, i: 91-96. 8°. London. 1846.

In the closing paragraphs brief reference is made to elytra of "two or more species of *Coleoptera*" at Wateringbury.

Mantell, G. A. Geological excursions round the Isle of Wight and along the adjacent coast of Dorsetshire; illustrative of the most interesting geologi-

cal phenomena, and organic remains. 160. London. 1847. pp. 428, pl. 20.

Refers to the discovery of fossil insects in tertiary and wealden beds at pp. 140, 400.

Mantell, G. A. A brief notice of organic remains recently discovered in the wealden formation. *Quart. journ. geol. soc. Lond.*, 5: 37-43, pl. 3. 80. London. 1849.

A brief notice, p. 39, of elytra of Coleoptera from the "fresh-water strata above the colite in Buckinghamshire;" two of these are figured in detail, but no suggestion is made of their affinities.

Maravigna, Carmelo. Insectes dans l'ambre. *Rev. zool.*, 1: 168-169, followed by remarks of Guérin Meneville, pp. 169-170, pl. 1. 80. Paris. 1838.

Maravigna's note is upon the conditions of occurrence of Sicilian amber. Guérin figures and enumerates and occasionally names about fifteen species, mostly Coleoptera, Hymenoptera, and Diptera.

Massalongo, Abramo Bartolommeo Pr. Monografia delle nereide fossili. 80. Verona. 1855. pp. 35, pl. 6.

In an appendix, pp. 31-32, he enumerates five species of insects from Monte Bolca.

Massalongo, A. B. P. Prodomo di un' entomologia fossile del M. Bolca. *Studi paleont.*, pp. 11-21, tab. 1 (pars.), 2. 80. Verona. 1856.

Describes seven insects of different orders.

Massalongo, A. B. P. Sopra due larve fossili di Libellula dei terreni mioceni di Sinigallia. *Studi paleont.*, pp. 22-23, tab. 1, figs. 8-13. 80. Verona. 1856.

The larvae are referred to two of Heer's species from Oenigen.

Massalongo, A. B. P. Compendium faunae et flora fossilis bolcensis.

Not seen; nor have I been able to find a single reference to it in bibliographies, and presume it is still unpublished. It is thus referred to in several places by the author in other publications; see *Studi paleont.*, p. 14, etc.

Massalongo, A. B. P. e Scarabelli, G. Studi sulla flora fossile e geologica stratigrafica del Senigalliese. 40. Inola. 1859. pp. 8, 506, map, pl. 45.

Parte 1^a Geologia stratigrafica is by Scarabelli; parte 2^a Flora fossile by Massalongo. Insetti on p. 25, contains a nominal list of species.

Mayr, Gustav Leopold. Vorläufige studien über die Radoboj-formiciden in der sammlung der k. k. geologischen reichsanstalt. 80. Wien. 1867. pp. 16, pl. 1. *Fahrh. geol. reichsanst.*, 17: 47-61, taf. 1. 80. Wien. 1867.

A revision of the specimens described by Heer with reference to modern genera. See also Heer, O.

ABSTRACT: On fossil insects. *Quart. journ. geol. soc. Lond.*, 23, ii: 7. 80. London. 1867.

Mayr, G. L. Die ameisden des baltischen bernsteins; mit 106 figuren auf fünf tafeln. *Beitr. naturk. Preussens*, 1, pp. 4, 102, (10), tab. 5. 40. Königsberg. 1868.

Extended descriptions of forty-nine species and twenty-three genera, with some preliminary general observations, including a review of previous literature, and a comparison of amber species with modern types and those of Radoboj.

Medlicott, H. B. and Blanford, W. T. A manual of the geology of India; chiefly compiled from the observations of the geological survey; published by order of the government of India. 80. Calcutta. 1879. 2 vol. and map. Vol. 1. Peninsular area, pp. 18, 80, 1-444. Vol. 2. Extrapeninsular area, pp. 445-817, pl. 21.

On pp. 152, 154, 314 are references to insects found in the mesozoic and tertiary deposits of central India.

Meek, Fielding B., and Worthen, A. H. Notice of some new types of organic remains from the coal measures of Illinois. *Proc. acad. nat. sc. Philad.*, 1865; 41-53. 80. Philadelphia. 1865.

Describe *Anthracerpes tytus* as a myriapod and *Palaeocampa anthrax* as an insect, — both afterwards considered as worms.

Meek, F. B., and Worthen, A. H. Preliminary notice of a scorpion, a Eurypterus, and other fossils, from the coal-measures of Illinois. *Am. journ. sc. arts*, [2], 46: 19-28. 80. New Haven. 1868.

Afterwards described more fully in the Geological survey of Illinois. Among the "other fossils" are two myriapods.

Meek, F. B., and Worthen, A. H. Articulate fossils of the coal measures. Worthen, *Geol. surv. Ill.*, 3, ii, *paleontology*, pp. 540-565, figs. 80. n. p. 1868.

Describe and figure, pp. 556-565, two myriapods and two arachnids, with a Note on the genus *Palaeocampa*, p. 565, first described as a caterpillar, but here considered a worm.

Meigen, Johann Wilhelm. See Rathke, M. H. **Meinecke, Johann Christoph.** Vermischte anmerkungen über verschiedene gegenstände, sonderlich des steinreichs. *Naturforscher*, st. 20: 185-210. 160. Halle. 1784.

The first part, pp. 186-189, is devoted to amber, as occurring in which he mentions various insects and *Gryllus domesticus* in particular.

Menge, A. Ueber die scheerenspinnen, Chernetidae. 40. [Danzig. 1855.] pp. 43, pl. 5. *Neueste schrift. naturf. gesellsch. Danzig*, 15, heft 2 [art. 2]. 40. Danzig. 1855.

Seven of the fifteen species described and figured are from amber.

Menge, A. Lebenszeichen vorweltlicher, im bernstein eingeschlossener thiere. *Progr. petrishule Danzig*, pp. 1-32. 40. Danzig. 1856.

Contains a valuable systematic review of the species in the author's collection, with occasional brief descriptions. The collection is one of the largest ever made, containing 67 Myriapoda of 31 species, 674 Arachnida of more than 150 species, and 3102 Insecta, of which even the genera are rarely enumerated, but only separated by families.

Menge, A. Ueber ein rhipidopteron und einige andere im bernstein eingeschlossene thiere. Also entitled: Ueber ein rhipidopteron und einige helmthinen im bernstein. 80. Danzig. 1866. t. p., pp. 8, figs. *Schriften naturf. gesellsch. Danzig* (2), 1, iii-iv. 80. Danzig. 1866.

The strepsipteron is described and figured under the name of *Triaena tertiaria*, and figures are given of a Chironomus to which a Mermis is found attached.

Menge, A. Ueber einen scorpion und zwei spinnen im bernstein. 80. Danzig. 1869. pp. 9. *Schrift. naturf. gesellsch. Danzig*, (2), ii. 80. Danzig. 1869.

Menge, A. See also Koch, F. C. L. and Berendt, G. C.; and Pictet-Baraban, F. J. et Hagen, H. A. **Mercati, Michael.** Michaelis Mercati samminiatensis Metallotheca opus posthumum, auctoritate, & munificentia Clementis XI. pontificis maximi e tenebris in lucem eductum; opera autem, & studio Joannis Mariae Langisii archiatri pontificii illustratum. 40. Romae. 1717. pp. 64, 378, (18), pl. 6, figs.

Arm. 5, cap. 9: De succino, pp. 87-90, contains on p. 89 figures of some half dozen insects in amber which are enumerated in a single line on p. 88.

von Meyer (Christian Erich) Hermann. *Industria. Ersch u. Gruber, Allg. encycl. wissensch. u. künste*, sect. 2, th. 18, s. 136. 40. Leipzig. 1840.

von Meyer, C. E. H. Insekten, fossile. *Ersch. u. Grüber, Allg. encycl. wissensch. u. künste*, sect. 2, th. 18, s. 536-541. 40. Leipzig. 1840.

A review of the literature, with nothing new.

von Meyer, C. E. H. Fische und insekten der braunkohle bei Westerbürg in Nassau. *Neues jahrb. mineral.*, 1851: 677. 8°. Stuttgart. 1851.

Brief notice of the discovery of two flies.

von Meyer, C. E. H. Mittheilung an professor Bronn. *Neues jahrb. mineral.*, 1852: 465-468.

Notices, p. 467, Heyden's *Dicerca Taschei*; his discovery of insect borings in wood from the brown coal; and his statement that *Xylophagus antiquus* is a *Bibio*.

von Meyer, C. E. H. Vogel-federn und Palpipes priscus von Solenhofen. *Neues jahrb. mineral.*, 1861: 561. 8°. Stuttgart. 1861.

A brief notice of seven new specimens of Palpipes.

von Meyer, C. E. H. Zu Palpipes priscus aus dem lithographischen schiefer in Bayern. *Palaeontograph.*, 10: 299-304, *taf.* 50, *figs.* 1-4. 4°. Cassel. 1863.

A detailed description of this arachnid from several specimens.

von Meyer, C. E. H. See **Jordan, H.** and **Meyer, (C. E.) H.**

Michelin. [Sur] un travail imprimé de M. Hoeminghaus, relatif à une espèce fossile du genre Phrygane. *Ann. soc. ent. France*, (2), 3, *bull. ent.*, 30-31. 8°. Paris. 1845.

Miller, S. A. The caenozoic or tertiary period. *Journ. Cinc. soc. nat. hist.*, 4: 93-144. 8°. Cincinnati. 1881.

Gives lists of the tertiary insects described from North America.

Miller, S. A. The American palaeozoic fossils: a catalogue of the genera and species, with names of authors, dates, places of publication, groups of rocks in which found, and the etymology and signification of the words, and an introduction devoted to the stratigraphical geology of the palaeozoic rocks. 8°. Cincinnati. 1877. pp. 15, 253.

Arachnida, Myriapoda and Insecta, pp. 224-226.

Millière, Pierre. Observations relatives à l'empreinte d'un hémiptère fossile (with note by Signoret, V., and Fairmaire, L.). *Ann. soc. ent. France*, (3), 1: 9-11, *pl.* 3ⁱⁱ. 8°. Paris. 1853.

Describes under the name of *Aphis longicaudus*, an insect from the "schiste marneux" of Ambrérieux, Ain.

Moore, Charles. On the palaeontology of the middle and upper lias. *Proc. Somersetsh. archaeol. nat. hist. soc.*, 2: 61-76. 8°. Taunton. 1865-1866.

His collection of lias insects consists of about 1000 specimens. "The families represented at Ilminster include Libellula, Neuroptera, Orthoptera, Homoptera, Diptera and Coleoptera."

Moore, C. On the zones of the lower lias and the Avicula contorta zone. *Quart. Journ. geol. soc. Lond.*, 17, 1: 483-516, *pl.* 15-16. 8°. London. 1861.

On p. 513 mentions the occurrence of Carabidae at Vallis.

Moore, C. Notes on a plant and insect bed on the Rocky River, New South Wales. *Quart. Journ. geol. soc. Lond.*, 26: 261-263, *pl.* 18, *figs.* 2-11. 8°. London. 1870.

Brief notice of the insects, about ten species of beetles, which are figured. An abstract with the same title (excepting the omission of the word Notes) on p. 2 of same, with discussion, which does not touch the insects. An abstract will also be found in *Phil. mag.*, 39: 463. 8°. London. 1870.

Morris, John. A catalogue of British fossils, comprising all the genera and species hitherto described: with references to their geological distribution and to the localities in which they have been found. 8°. London. 1843. pp. 11, 222.

Insecta, p. 69.

Morris, J. *The same.* Second edition, considerably enlarged. 8°. London. 1854. pp. 8, 372.

Insecta, pp. 116-118.

Morris, J. On some sections in the oolitic district of Lincolnshire. *Quart. Journ. geol. soc. Lond.*, 9, 1: 317-344, *pl.* 14. 8°. London. 1853.

Mentions the occurrence of insects on p. 324 and note.

Morris, William. Did flowers exist during the carboniferous epoch? *Nature*, 20: 404. 8°. London. 1879.

Notices a "Carbonaceous impress on a piece of shale from the Slievardagh coal field, Tipperary" which "appears" to him "to be a butterfly."

Mortillet, Gabriel. Description d'une nouvelle espèce de coléoptère fossile (*Donacia Genin*) trouvé dans les lignites de Sonnaz. *Bull. soc. hist. nat. Savoie*, 1850, p. 135.

Les alpes, 1850, no. 5.

Arch. sc. phys. nat., 15: 78-79. 8°. Genève. 1850.

Description of the species. Only the last reference seen.

Motschoulsky, Victor. Lettre à M. Ménétrières. *Études entom.*, 5: 3-38, *pl.* 16°. Helsingfors. 1856.

Contains, pp. 25-30, a notice of Menge's collection of amber insects with descriptions, pp. 25-27, and figures (in the single plate) of thirteen Coleoptera. Also, p. 34, a brief notice of Heer's collection of Oeningen insects.

Motschoulsky, V. Genres et espèces d'insectes publiés dans différents ouvrages. Supplément au vi vol. des *Horae societatis entomologicae rossicae*. 8°. St. Pétersbourg. 1868. t. p., pp. 118.

Contains a list, p. 103, of Insectes contenus dans le succin described by the author.

Mourlon, Michel. Géologie de la Belgique. 2 v. 8°.

Not seen. The fossil insects of Belgium are treated, according to de Borre, *Comptes-rendus soc. ent. Belg.*, (3), no. 3, p. 38.

Müller, Johannes. Fossile fische. *Middendorff's Sibirische reise*, 1, 1: 259-263, *pl.* 11. 4°. St. Pétersbourg. 1848.

Refers in three lines, p. 261, to the ephemerid larva found by Middendorff, which is figured *pl.* 11, *fig.* 7.

Münster, George, Graf zu. Fossile fische, seprien, krebse, Monotis salinaria, sanrier, algaciten von Oeningen, schildkröte in lias von Altdorf, Clymenia glossopteris, folliculites; tertiär formation in Norddeutschland. *Neues jahrb. mineral.*, 1834: 42-43. 8°. Stuttgart. 1834.

Mentions the reception of a beetle from Solenhofen and insects from Oeningen.

Münster, G. Insekten in lias. *Neues jahrb. mineral.*, 1835: 333. 8°. Stuttgart. 1835.

Has discovered lias insects in the neighborhood of Brzezina.

Münster, G. See **Germar, E. F.** Beschreibung einiger neuen fossile insecten (1842), where some of the names are given by Münster.

Münster, G. See also **Cotta, B.**

Murchison, Sir Roderick Impey. On a fossil fox found at Oeningen near Constance; with an account of the deposit in which it was imbedded. *Trans. geol. soc. Lond.*, (2), 3: 277-290. *pl.* 33-34. 4°. London. 1832.

The insects, pp. 286-287, *pl.* 34, are described by Curtis, with a mention of others determined by Samouelle; only a dozen species in all are mentioned; those figured are Odonata.

Murchison, R. I. The silurian system, founded on geological researches in the counties of Salop, Hereford, Radnor, Montgomery, Caermarthen, Brecon, Pembroke, Monmouth, Gloucester, Worcester and Stafford; with descriptions of the coal fields and overlying formations. 4°. London. 1839. pp. 32, 768, *pl.* 37.

Murchison, R. I. Outline of the geology of the neighbourhood of Cheltenham. A new edition, augmented and revised by James Buckman and H. E. Strickland. 8°. London. 1845. pp. 110, map, sect., pl. 13.

The first edition makes no allusion to fossil insects. The additions upon that subject in this are by Brodie (q. v.) and Buckman. The insects are catalogued on pp. 68, 81-82 and figured on pl. 4, 8, 9. Reference is also incidentally made in several places to the insect beds of the district, but without special mention of their contents.

Murchison, R. I. Siluria. The history of the oldest known rocks containing organic remains, with a brief sketch of the distribution of gold over the earth. 8°. London. 1854. pp. 16, 523, pl. 37.

Notices insects of the coal, p. 284.

Murchison, R. I. Siluria. The history of the oldest fossiliferous rocks and their foundations; with a brief sketch of the distribution of gold over the earth. 3d edition (including the silurian system) with maps and many additional illustrations. 8°. London. 1859. pp. 20, 592, (2), pl. (2), 41, maps 2.

Brief reference to and figure of an insect "allied to *Corydalis*" from Coalbrookdale on pp. 320-321.

Murchison, Sir Roderick Impey, and Lyell, Sir Charles. On the tertiary fresh-water formations of Aix in Provence, including the coal field of Fuveau . . . with a description of fossil insects contained therein by John Curtis. *Proc. geol. soc. Lond.*, 1: 150-151. 8°. London. 1829.

Accompanied, p. 151, by "Observations on the fossil insects" mentioned, by John Curtis, afterwards described and figured by the same. See Curtis, J.

Murray, Andrew. Notes on some fossil insects from Nágpur. *Quart. journ. geol. soc. Lond.*, 16: 182-185, 189, pl. 10, figs. 66-70. 8°. London. 1860.

Occurs as a separate note in an article by Hislop, S., "On the tertiary deposits associated with the trap-rock in the East Indies, with descriptions of the fossil shells by the Rev. Stephen Hislop, and of the fossil insects by Andrew Murray, and a note on the fossil Cypridae by T. Rupert Jones." Thirteen Coleoptera (Buprestidae and Curculionidae) are mentioned and figured; only one is named.

Mylius, G. F. Memorabilium Saxoniae subterraneae, pars prima; i. e. Des unterirdischen Sachsens weitsamer wunder der natur; erster theil. Worinnen die auf denen steinen an kräutern, bäumen, blühen, fischen, thieren und andern dergleichen besondere abbildungen, so wohl unsers Sachsenlandes als deren so es mit diesen gemein haben, gezeigt werden, mit vielen kupffern gezieret. 4°. Leipzig. 1709. pp. (6), 80, (19), front., pl. (13), fig.

Remarks on a fossil "wurm, welcher einem seideowurm nicht ungleich scheinet," p. 56.

Nicholson, Henry Alleyne. A manual of palaeontology for the use of students, with a general introduction on the principles of palaeontology. 8°. London. 1872. pp. 18, 601, figs. 401.

Chapter xvii. Arachnida, Myriapoda, and Insecta occupies pp. 181-187 and figs. 124-130. This very brief notice is mostly confined to the older insects.

Nicholson, H. A. *The same.* Second edition, revised and greatly enlarged. 2 vol. 8°. Edinburgh and London. 1879. Vol. 1, pp. 18, 511; vol. 2, pp. 12, 531, figs.

Vol. 1 contains a chapter (20) on Arachnida, Myriapoda, and Insecta, pp. 398-409, figs. 250-258; slightly enlarged from the preceding.

Nicholson, H. A. The ancient life-history of the earth, a comprehensive outline of the principles and leading facts of palaeontological science. 8°. Edinburgh and London. 1877. pp. 19, 407.

Contains nothing original in insects; a few are figured.

Nicholson, H. A. See also **White, C. A.**, and **Nicholson, H. A.**

Nöggerath, Jacob. Notizen über fossile animalien. *Arch. ges. naturl.*, 2: 323-325. 8°. Nürnberg. 1824.

Mentions the discovery of fossil beetles (p. 325) at Orsberge on the Rhine.

Novák, Ottomar. Fauna der cyprisschiefer des egerer tertiarbeckens. Wien. 8°. 1877. pp. 26, pl. 3. *Sitzungsber. akad. wiss. Wien*, 76: abth. 1, math. nat. classe, 71-96, taf. 1-3. 8°. Wien. 1878.

Descriptions and illustrations of nineteen insects of various groups, but mostly Diptera.

Novák, O. Ueber *Gryllacris bohemia*, einen neuen locustidenrest aus der steinkohlenformation von Stradonitz in Böhmen. 8°. Wien. 1880. pp. 6, pl. 1. *Jahrb. geol. reichsanst. Wien*, 30: 69-74, taf. 2. 1. 8°. Wien. 1880.

Compares the new species with *Gryllacris Brongniarti* (Mantell), which also is figured, and to which it is closely allied. Reviewed by Scudder, *Proc. Bost. soc. nat. hist.*, 21. 8°. Boston. 1881.

d'Orbigny, Alcide Dessalines. Recherches zoologiques sur l'instant d'apparition, dans les âges du monde, des ordres d'animaux, comparé au degré de perfection de l'ensemble de leurs organes. *Ann. sc. nat.*, (3), 13: 228-236, 2 tables. 8°. Paris. 1850.

Insects are treated on pp. 232-233 and on both tables.

von Osten Sacken, Carl Robert Romanoff. See **Loew, H.**

Ouchakoff, Nicolas. Notice sur un termes fossile. *Bull. soc. imp. nat. Mosc.*, 1838: 37-42, pl. 1. 8°. Moscou. 1838.

Ann. sc. nat., (2), 13: 204-207, pl. 1 B. 8°. Paris. 1840.

TRANSLATION: Notice of a fossil termes. *Calc. journ. nat. hist.*, 2: 74-78. 8°. Calcutta. 1842.

ABSTRACT: Notitz über eines fossilen termiten. *Neues jahrb. mineral.*, 1839: 122-123. 8°. Stuttgart. 1839.

Oustalet, Émile. Recherches sur les insectes fossiles des terrains tertiaires de la France; première partie. Insectes fossiles de l'Auvergne. *Ann. sc. géol.*, 2, art. 3, pp. 1-178, pl. 1-6. 8°. Paris. 1870.

Oustalet, E. *The same*, entitled: Mémoire sur les insectes fossiles des terrains tertiaires de la France. *Bibl. école hautes études, sect. sc. nat.*, art. 7, pp. 1-178, pl. 1-6. 8°. Paris. 1871.

Studied descriptions of forty-five species, most of them new; they are mostly Diptera, especially Protomyiidae and Bibionidae, and Coleoptera, especially Rhynchophora. The characteristics of the groups to which the insects belong are given in detail, and references made to other fossil insects of the same groups. The whole is preceded by a chapter of 48 pages, containing a good history of our knowledge of fossil insects, and is followed by one of 17 pages of general results reached by a study of the Auvergne fossil insects, which are found to show a mingling of indigenous and of exotic forms, a Mediterranean and American aspect, and a warmer climate than now.

An extended notice will be found in the *Revue scient. France*, (2), 4: 136-137. 4°. Paris. 1874. See also **Giard, A.**

Oustalet, E. Recherches sur les insectes fossiles des terrains tertiaires de la France; deuxième partie. Insectes fossiles d'Aix en Provence. [Premier fascicule. Coléoptères d'Aix.] *Ann. sc. géol.*, 5, art. 2, pp. 1-347, pl. 1-6. 8°. Paris. 1874. [pp. 1-136 and pl. 1-2 Febr. 15, 1874; pp. 137-347, pl. 3-6, Mai 15, 1874.]

Also [with prem. partie] under the title: Recherches sur les insectes fossiles des terrains tertiaires de la France. Thèse présentée à la faculté des sciences. 8°. Paris. 1874. pp. 1-556, pl. 1-12.

The second part describes 81 species after the same plan as in the preceding memoir. 32 of them are Rhynchophora, 19

Staphylinidae, 11 Carabidae, and the rest scattered among various families; the memoir opens with a chapter of 74 pages on the geological relations of the gypsum beds of Aix.

Oustalet, É. Note sur une empreinte de diptère fossile des marnes du gypse des environs de Paris. *Bull. soc. philom. Paris*, [6], 9 : 161. 80. Paris. 1872.

Not seen; title received from the author. Bibio Chapuisi is described.

Oustalet, É. Paléontologie. Girard, *Les insectes; traité élémentaire d'entomologie*, 1 : 170-180. 80. Paris. 1873.

A good general account of fossil insects from the older to the newer strata.

Oustalet, É. Sur quelques espèces fossiles de l'ordre des thysanoptères. *Bull. soc. philom. Paris*, [6], 10 : 20-27. 80. Paris. 1873.

Describes a new genus and three new species of Physopoda from Aix.

Oustalet, É. Insectes de l'ambre. *Bull. soc. philom. Paris*, [6], 10 : 98-99. 80. Paris. 1873.

A brief notice of various insects enclosed in a single block of amber in which Vaillant had detected a reptile. The insects are mentioned still more briefly in Vaillant's paper.

Oustalet, É. Sur un hémiptère de la famille des pentatomides. *Bull. soc. philom. Paris*, [6], 11 : 14-16. 80. Paris. [1874] 1877.

Describes *Cydnopsis Heeri*.

Oustalet, É. Les insectes fossiles de la France. *La nature*, 3 : 33-36, figs. 4^e. Paris. 1874.

A popular account of the tertiary insects of France, with figures of Bibio Edwardsi, Calosoma Agassizi and Cylole septima.

Oustalet, É. Observation sur la communication de M. Filho [Sur les vertébrés fossiles des dépôts de phosphate de chaux du Quercy]. *Bull. soc. philom. Paris*, [6], 11 : 21. 80. Paris. [1874] 1877.

Analogies between the insect fauna of the oligocene of southern France on the one hand, and that of southern N. America at the present time, or of the oligocene of the Rocky Mountains on the other.

Oustalet, É. Réclamation sur une question de nomenclature. *Bull. séances soc. entom. France*, 1878, vii : 72. 80. Paris. 1878.

Ann. soc. entom. France (5), 8, *bull.*, 60-61. 80. Paris. 1878.

Bull. scient. dépt. du Nord, (2), 1 : 105-106. 80. Lille. 1878. (With notes by Giard.)

A claim that the name of the original describer of the species of *Protomyia* referred by Brongniart to *Plectica* should still remain attached to them. Giard refers to the opinion of Loew regarding Heer's *Protomyia*.

Oustalet, É. See also **Giard, A.**

Owen, Richard. Palaeontology, or A systematic summary of extinct animals and their geological relations. 2d edition. 80. Edinburgh. 1861. pp. 16, 463.

The insects are briefly treated, without illustrations, on pp. 51-52. Nothing new is given except the expression of a doubt by Waterhouse whether the industrial limestone of Anvergne is to be referred to the cases of Phryganidae.

The first edition of this work was an excerpt from Vol. 17 of the *Encyclopædia Britannica* (8th ed. 1859), where the article occupied pp. 91-176, and the insects, in nearly the same words as in the later edition, occurred on pp. 102-103.

Packard, Aphæus Spring. Guide to the study of insects, and a treatise on those injurious and beneficial to crops; for the use of colleges, farm-schools and agriculturalists; with eleven plates and six hundred and fifty wood-cuts. 80. Salem. 1869 [1868-69]. pp. 8, 702, pl. 11.

Has a section on Geological distribution, pp. 77-81, with a plate (1) in the introduction, besides treating of the fossil species in the body of the work; especially in the Neuroptera, where pp. 52-53 are given to a discussion of *Eugereon*, with a figure (57) and quotations from opinions expressed by Hagen and Ger-

staeker in letters from the former. In the third edition (1872) an appendix is added, in which, pp. 710-711, a description and figure are given of *Paolia*. A figure of *Arthrolycosa* is added in the fourth edition (1874). The preface to sixth edition (1878) contains on its second page a paragraph on the fossil insects published in America since the previous edition [furnished by S. H. Scudder].

Packard, A. S. [On insect-remains occurring in nodules . . . north of Turner's Falls.] *Bull. Essex inst.*, 3 : 1-2. 80. Salem. 1871.

Considers *Palephemera mediaeva* an aquatic coleopterous insect "belonging perhaps near the family Heteroceridae."

Packard, A. S. Our common insects; a popular account of the insects of our fields, forests, gardens and houses; illustrated with four plates and 268 woodcuts. 160. Salem. 1873.

Contains a chapter (xiii) entitled Hints on the ancestry of insects, in which, and especially on pp. 157-159, the geological question is briefly discussed.

Parkinson, James. Organic remains of a former world; an examination of the mineralized remains of the vegetables and animals of the antediluvian world; generally termed extraneous fossils. 2d edition. 3 vols. 4^o. London. 1833. Vol. 1, pp. 12, 460, (4), front., pl. 1, 9; — vol. 2, pp. 14, 286, (26); front., pl. 19; — vol. 3, pp. 12 [10], 467, (20), front., pl. 22.

Entomolithi are treated in vol. 3, pp. 265-267, and pl. 17, figs. 2-6; larvae of *Odonata* from Pappenheim being figured and some indistinguishable insects copied from Luidius.

Peach, Charles William. An account of the fossil organic remains found on the south-east coast of Cornwall, and in other parts of that county. *Trans. roy. geol. soc. Cornwall*, 6 : 12-23. 80. Penzance. 1846.

Mentions the discovery of elytra of beetles in alluvial matter lying about the roots of trees resting on clay at Port Mellin, p. 23.

Peach, C. W. On the fossiliferous strata of part of the south-east coast of Cornwall. *Trans. roy. geol. soc. Cornwall*, 7 : 57-62, pl. 3-4. 80. Penzance. 1865.

Mentions, p. 62, the occurrence of elytra of beetles in similar situations as the preceding at Ready Money.

Peale, A. C. Report on the geology of the Green River district. *Ann. rep. U. S. geol. surv. terr.*, 1877, 511-646, pl. 47-76. 80. Washington. 1879.

Contains, p. 535, notice of the discovery of insects on Twin Creek, Wyoming Terr.; and pp. 633-639 a reprint of Scudder's description of *Indusia calculosa* from Horse Creek Valley, Wyoming; see also p. 528.

Phillips, John. The neighborhood of Oxford, and its geology. *Oxford essays*, 1855 : 192-212. 80. London. 1855.

A paragraph, p. 204, is given to the insects of the Stonesfield slate.

Phillips, J. Oxford fossils. No. 2. *Geol. mag.*, 3, 97-99, pl. 6. 80. London. 1866.

Describes and figures *Libellula Westwoodii* from the Stonesfield slate, and compares it with *Aeschna Brodiei* from the lias.

Phillips, J. Geology of Oxford and the valley of the Thames. 80. Oxford. 1871. pp. 24, 523, pl. 17.

Contains, p. 123, fossils of the liassic period; pp. 173-174, fossils of the Stonesfield beds, in both of which insects are referred to.

Phillips, J. See **Conybeare, W. D.**, and **Phillips, W.**, and **Woodward, H. et al.**

Pictet-Baraban, afterwards **Pictet-de la Rive**, François Jules (q. v.).

Pictet-de la Rive, François Jules. Résultat de ses recherches sur les insectes fossiles de l'ordre des névroptères contenus dans l'ambre. *Actes soc. helv. sc. nat.*, 30 : 69-70. 80. Genève. 1845.

All specifically distinct from existing forms, but with one exception of existing genera.

Pictet-de la Rive, F. J. Considérations générales sur les débris organiques qui ont été trouvés dans l'ambre et en particulier sur les insectes. *Arch. sc. phys. nat.*, 2: 5-16. 8°. Genève et Paris. 1846.

Amber insects altogether differ specifically from living forms, a considerable number of genera are also distinct and there are two peculiar families: Archaeides in the Arachnida and Pseudoperlides in the Neuroptera; a warmer climate than the present is indicated.

TRANSLATION: General considerations on the organic remains, and in particular on the insects, which have been found in amber. *Edinb. new phil. journ.*, 41: 391-401. 8°. Edinburgh. 1846.

Pictet-de la Rive, F. J. Traité élémentaire de paléontologie ou Histoire naturelle des animaux fossiles considérés dans leurs rapports zoologiques et géologiques. 4 vol. 8°. Genève. 1844-46. T. 4. (1846), pp. 15, 458, pl. 20 in text.

IV classe, Arachnides, pp. 87-89; V classe, Insectes, pp. 91-114; VI classe, Myriapodes, pp. 115-116. No insects are figured.

Pictet-de la Rive, F. J. Traité de paléontologie ou Histoire naturelle des animaux fossiles considérés dans leurs rapports zoologiques et géologiques. 2^e édition. 4 vol. 8°; atlas, 4°. Paris. 1853-57. T. 2 (1854), t. p., pp. 727; atlas, pp. 32, pl. 56.

Insectes, pp. 301-405; Myriapodes, p. 405; Arachnides, pp. 406-410; Atlas, pl. 40-41. A few additions from Serres MS. are quoted.

Pictet-de la Rive, F. J. See also **Germar, E. F., und Berendt, G. C.**

Pictet-de la Rive, F. J., und Hagen, H. A. Die im Bernstein befindlichen neuropteren der vorwelt. f^o. Berlin. [1856.] t. p., pp. 41-125, pl. 5-8. Berendt, *Bernst. befindl. org. reste vorw.*, 2^{er} bd. 1^e abth. pars.

More than seventy species are described in full detail and admirably figured. Under the genera also Hagen gives good accounts of the literature of fossil species and prefaces the whole with general observations of the amber Neuroptera. The work is mostly Hagen's. Some descriptions are by Menge. Description of the larva of a Phasma is also appended, p. 122.

Pidgeon, Edward. The fossil remains of the animal kingdom. 8°. London. 1830. pp. (6), 544 (1), pl. (49).

Forms the supplementary volumes of Griffith's Animal kingdom of Cuvier. Insects are treated in a summary manner on pp. 493-495, but nothing new is added, and none are figured.

Plateau, Félix. See **de Borre, A. P.**
Plinius Secundus, Caius. Naturalis historia. Liber 37, section 72.

As translated by Bostock and Riley (8°, London, 1857) that part of the passage which may refer to fossil insects reads as follows: "Other stones, again, derive their names from various animals. . . scorpitis, from either the colour or the shape of the scorpion. . . Myrmecitis presents the appearance of an ant crawling within, and cantharias of a scarabaeus."

Ponzi, G. Lavori degli insetti nelle lignite del Monte Vaticano. 4°. Roma. [1876.] pp. 3.

Not seen.

Presl, Joannes Swatoplucus. Additamenta ad Faunam protogaeam, sistens descriptiones aliquot animalium in succino inclusorum. *Deliciae pragenses*, 1: 191-210. 16°. Pragae. 1822.

Describes 1 species of Cynips, 6 Formica, 1 Tinea, 3 Tipula, 4 Musca, 2 Aranea, 1 Phalangium, and 1 Acarus. Noticed in Oken's *Isis*, 1823: 374-375. 4°. Jena. 1823.

Prestwich, Joseph. On some of the faults which affect the coalfield of Coalbrookdale. *Lond. Edinb. phil. mag.*, iv: 375-376. 8°. London. 1834.

Proc. geol. soc. Lond., 2: 18-20. 8°. London. 1834.

In a notice of the fossils a beetle and a spider are mentioned, p. 376 (20), as occurring in the iron-stone nodules at that place.

Prestwich, J. On the geology of Coalbrook Dale. *Trans. geol. soc. Lond.*, (2), 5: 413-495, pl. 30-41. 4°. London. 1840.

Contains a notice, p. 446, of three fossil insects (Curculoides [sic] Ansticii, C. Prestwici and a neuropteron) from the locality; also entered in the table on p. 490.

Prévost, Constant. Observations sur les schistes calcaires oolitiques de Stonesfield en Angleterre, dans lesquels ont été trouvés plusieurs ossemens fossiles de mammifères. *Ann. sc. natur.*, 4: 389-417, pl. 17-18. 8°. Paris. 1824.

Refers merely, p. 393, and in explanation of plates, p. 417, to elytra of a Buprestis? figured pl. 18, fig. 26.

Procaccini Ricci, Vito. Lettera . . . sugli entomoliti delle gessaje sinigagliesi. *Nuov. ann. sc. natur.*, ann. 4, tom. 7, pp. 448-456. 8°. Bologna. 1842.

A general paper, in which on p. 449 it is stated that Coleoptera, Hemiptera, Lepidoptera, Neuroptera, Hymenoptera, Diptera and Aptera have been found at Senigaglia.

Quenstedt, Friedrich August. Handbuch der petrefaktenkunde. 8°. Tübingen. 1852. pp. 6, 792, pl. 62.

Arachnidae, pp. 306-309; Insecta, pp. 309-319. The 2d edition not seen.

Raffray, Achille. Note sur des insectes renfermés dans des morceaux de gomme copal. *Ann. soc. ent. France*, (5), 5, *bull. ent.*, 125-126. 8°. Paris. 1875.

General notes based on a collection exhibited; a single paragraph is devoted to insects.

Rathke, Martin Heinrich. Untersuchung über die Bernstein-insecten. Oken's *Isis*, 1829: 413. 4°. Leipzig. 1829.

Mentions his large collection of amber insects collected in company with Behrendt; the Coleoptera had been studied by Heyden and Schmidt, the Ichneumonidae by Gravenhorst, the Diptera by Meigen and Wiedemann.

Reichenbach, Heinrich Gottlieb Ludwig. See **Geinitz, H. B.**

Reuss, August Emanuel. Kurze übersicht der geognostischen verhältnisse Böhmens; fünf vorträge, gehalten im naturwissenschaftlichen vereine Lotos im jahre 1853; mit drei geologischen übersichtskarten. 8°. Prag. 1854. pp. 103, pl. 3.

Refers, p. 59, to two scorpions and a spider from the carboniferous rocks of Bohemia.

Robert, Eugène. Lettre sur les observations faites en Danemarck, en Norwége et en Suède, et dans laquelle il parle du succin, etc. *Bull. soc. géol. France*, 9: 114-118. 8°. Paris. 1838.

The letter is addressed to M. Cordier. The amber containing insects is mentioned on pp. 114-115; the insects mentioned are Aphodius fossor, Buprestis, Galeruca, "altises" and "le bouclier," all on p. 114. It is quoted in the Royal society's catalogue under the title: De la disposition de la tourbe à Elseneur et des insectes qu'on y trouve.

Roemer, Ferdinand. On a fossil spider lately discovered in the coal measures of Upper Silesia. *Report Brit. assoc. adv. sc.*, 1865, *notices*, 73. 8°. London. 1866.

Geol. mag., 2: 468. 8°. London. 1865.

These two are essentially the same with slightly differing titles; and are practically an abstract of the following.

Roemer, F. Protolycosa anthracophila, eine fossile spinne aus dem steinkohlen-gebirge Oberschlesiens. *Neues jahrb. f. mineral.*, 1866: 136-143, *taf.* 3. 8°. Stuttgart. 1866.

Roemer, F. Notiz über ein vorkommen von fossilen käfern (coleopteren) im rhät bei Hildesheim.

Zeitschr. deutsch. geol. gesellsch., 28 : 350-353, figs. 8°. Berlin. 1876.

Describes and figures three species of Coleoptera, of which one is not named.

Roemer, F. *Lethaea geognostica* oder Beschreibung und abbildung der für die gebirgs-formationen bezeichnendsten versteinerungen, herausgegeben von einer vereinigung von paläontologen. I theil: *Lethaea palaeozoica* von F. Roemer. With secondary title: *Lethaea geognostica* oder Beschreibung und abbildung der für die einzelnen abtheilung der palaeozoischen formation bezeichnendsten versteinerungen. Atlas, mit 62 tafeln. 8°. Stuttgart. 1876. 2 t. p., vorw. 2 p., taf. 62 (mit erläuterungen).

A few insects are figured on plates 31, 47 and 56.

Roemer, F. See **Bronn, H. G., und Roemer, F. Rolle, Friedrich.** Ueber ein vorkommen fossiler pflanzen zu Obererlenbach (Wetterau). *Neues jahrb. f. mineral.*, 1877 : 769-784. 8°. Stuttgart. 1877.

Merely mentions, pp. 772-773, the occurrence of remains of insects in the pliocene? beds of Ober Erlenbach.

Rondani, Camillo. Lettre sur les insectes du succin. *Rev. zool.*, 3 : 366-370. 8°. Paris. 1840.

Followed, p. 370, by remarks by Guerin-Ménéville. Rondani makes some corrections of generic determinations in Guerin's supplement to Maravigna's paper. Guerin speaks only of the imperfection of the specimens. See also **Maravigna, C.**, in App.

Rost, Woldemar. De filicum ectypis obviis in lithanthracum wettinensium lobejunensium fosdinis. Halae. 8°. 1839. pp. 31.

Not seen. According to Germar, the latter's *Blattina didyma* is described as a fern.

Roth, Johann Rudolph. Ueber fossile spinnen des lithographischen schiefers. *Gel. anz. bay. akad. wiss.*, 32 : 164-167. fig. 4°. München. 1851.

Neues jahrb. mineral., 1851 : 375-377, pl. 4 B. fig. 8. 8°. Stuttgart. 1851.

Describes two species of a new genus, *Palpipes*.

Rouchy, l'abbé. [Borings of Coleoptera in a trunk of fossil Walchia.] *Petites nouv. entom.*, 1 : 551. 4°. Paris. 1875.

Salter, John William. On some species of Eurypteris and allied forms. *Quart. journ. geol. soc. Lond.*, 19, 1 : 81-87, figs. 8°. London. 1863.

Describes and figures as an Eurypteris some carboniferous fragments since recognized as myriapods.

de Saporta, Comte Gaston. Examen des flores tertiaires de Provence. Heer, *climat pays tert.*, pp. 133-171. 4°. Winterthur. 1861.

At the end of the section on the flora of Aix he refers, pp. 152-153, to the insects of the gypsum beds and their relations to the vegetation of the epoch.

de Saporta, G. Études sur la végétation du sud est de la France à l'époque tertiaire. Suppl. 1. Révision de la flore des gypses d'Aix; fasc. 1 : généralités. 8°. Paris. 1872. pp. 79, pl. 2. *Ann. sc. nat.*, (5), bot., 15 : 277-351, pl. 15-16. 8°. Paris. 1872.

Notifies the insects of Aix on pp. 70-71 [342-343]. Gives also a note by A. Giard, p. 69 [341], note, suggesting the presence at Aix of certain plants, from the occurrence of beetles presumed to feed upon them.

de Saporta, G. [Lettre à M. de Selys-Longchamps.] *Compt. rend. soc. ent. Belg.*, (2), no. 23 : 8. 8°. Bruxelles. 1876.

Ann. soc. ent. Belg., 19 : 4. 8°. Bruxelles. 1876. Lepidoptera could not have appeared before phanerogamous flowers.

de Saporta, G. See also **de Borre, A. P.**; and **Heer, O.**

de Saussure, Henri. Note sur un nouvel insecte hyménoptère fossile. 8°. [Paris. 1852.] pp. 2, pl. *Rev. mag. zool.*, (2), 4 : 579-582, pl. 23, figs. 5-6. 8°. Paris. 1852.

Describes and figures *Pimpla antiqua* from tertiaries of Aix.

Scarabelli, Giuseppe. See **Massalongo, A. B. P. e Scarabelli, G.**

Schau-platz der natur oder gespräche von der beschaffenheit und den absichten der natürlichen dinge etc. Dritter theil. 8°. Wienn und Nürnberg. 1748. pp. (22), 592, (11) front., pl. (33).

Refers to the occurrence of flies and beetles in amber, p. 347. A figure of a fossil odoate larva also appears on the plate opposite p. 426 (fig. F.).

Scheuchzer, Johann Jacob. Beschreibung der natur-geschichten des Schweizerlands dritter theil enthaltend vornemlich eine ober die höchsten alpegebirge an. 1705 getahne reise. 4°. Zürich. 1708. pp. (4), 208, pl. (9).

Refers, p. 68, to the occurrence of flies and spiders in amber (agdstein).

Scheuchzer, J. J. *Piscium querelae et vindiciae expositae.* 4°. Tiguri. 1708. t. p., pp. 36, pl. 5.

Mentions, p. 15, and figures, pl. 2, a "Scarabaeus in lapide fissili öningensi," as a relic of the deluge.

Scheuchzer, J. J. *Herbarium diluvianum.* f°. Tiguri. 1709. t. p., pp. 44, pl. 10.

Pl. 5, figs. 1-2, p. 16 give figures and description of an odoate larva from Oeningen and a winged odoate from Monte Bolca.

Scheuchzer, J. J. *Herbarium diluvianum; editio novissima duplo auctior.* f°. Lugduni Batavorum. 1723. 2 t. p., dedic., pp. 119, (5), portr., pl. 14.

The same is found on the same plate, p. 21.

Scheuchzer, J. J. *Museum diluvianum quod possidet J. J. S.* 16°. Tiguri. 1716. pp. (12), 107, (4), front.

Records four fossil insects, p. 106, from Oeningen, Monte Bolca and Querfurt.

Schilling, Samuel. See **Gravenhorst, J. L. K. von Schlotheim, Ernst Friedrich.** Die petrefactenkunde auf ihrem jetzigen standpunkte durch die beschreibung seiner sammlung versteinerter und fossiler überreste des thier- und pflanzenreichs der vorwelt erläutert; mit 15 kupfertafeln. 8° (atlas, 4°). Gotha. 1820. pp. 64, 438.

Pp. 42-44 relate to insects, specified under six heads.

von Schlotheim, E. F. Nachträge zur petrefactenkunde; mit 21 kupfertafeln. 8°. Gotha. 1822. pp. 12, 100.

The same. Zweyte abtheilung; mit kupfertafeln. 8° (atlas, 4°). Gotha. 1823. pp. (4), 114.

The second part contains on pp. 60-61, taf. 22, fig. 10, what the author looks upon as the larva and nest of a Myrmeleon.

Schmidel, Kasimir Christoph. Fortgesetzte vorstellung einiger merkwürdigen versteinerungen mit kurzen anmerkungen versehen. 4°. Nürnberg. 1782. t. p., pp. 45, pl. 8-24.

Describes, p. 36, and figures, pl. 19, fig. 2, a dragon fly from Solnhofen, which he compares with *Libella grandis*.

Schmidt, Wilhelm Ludwig Ewald. See **Rathke, M. H.**

Schreber, Johann Christian Daniel. *Lithographia halensis exhibens lapides circa Halam Saxonvm reperivndos systematice digestos secundvm classes et ordines genera et species cvm synonymis selectis et descriptionibvs speciervm.* Prefatus est

Ioh. Ioach Langiv. 16°. Halae. 1759. pp. 24, 80, pl. 1.

Describes *Etomolithus coleopteri* from Rothenburg, pp. 51-52.

Schröter, Johann Samuel. Neue litteratur und beyrträge zur kenntniß der naturgeschichte vorzüglich der conchylien und fossilien. 1^{er} band. 16°. Leipzig. 1784. pp. (8), 550, (30), pl. 3.

V. Ueber einige merkwürdige versteinerungen. A. Von versteinten insecten, 410-413, pl. 3, fig. 16.

Schröter, J. S. Entomolithen, versteinte insecten. Schröter, *Lithol. real- u. verbal-lex.*, 2: 93-100. 8°. Frankfurt. 1779.

A compilation from the writings of the older authors.

Schröter, J. S. Insecten, entomolithen. Schröter, *Lithol. real- u. verbal-lex.*, 3: 72-75. 8°. Frankfurt. 1780.

General remarks of no present value.

Schweigger, August Friedrich. Beobachtungen auf naturhistorischen reisen; anatomisch-physiologische untersuchungen über corallen; nebst einem anhang, bemerkungen über den bernstein enthaltend. 4°. Berlin. 1819. pp. 8, 128, (4), pl. 8, tab. 12.

The Bemerkungen über den bernstein occupy pp. 101-127 and pl. 8, and contain in foot-notes extended descriptions of a few insects, figured carefully on the plate, but part at least of which have since been recognized as copal insects.

Scrope, George Poulett. The geology and extinct volcanoes of central France. 2d ed. 8°. London. 1858. pp. 17, 258, pl. 17.

Discusses, pp. 10-13, the indusial limestones of France, which he records at the following localities: hills of Gergovia above Romagnat, at the Puy Giron, de Jussat, de Serre, de Mouton, de Dallet, at Mont Chagny, Mont Jughat, and les Côtes near Clermont; at Davayat near Riom; at Aigueperse, Gaunat, Mayet d'école, St. Gerard le Puy, between Jaligny and la Palisse, at Mont Barraud, etc. First edition not seen.

Scudder, Samuel Hubbard. On the devonian insects of New Brunswick. 8°. [Fredericton, 1865.] 1 p. Bailey, *Obs. geol. southern N. Brunsw.* 8°. Fredericton. 1865. pp. 140-141.

Amer. journ. sc., (2), 39: 357-358. 8°. N. Haven. 1865.

Can. nat. geol., n. s., 2: 234-236. 8°. Montreal. 1865.

Trans. entom. soc. Lond., (3), 2, *proc.* 117-118. 8°. London. 1866.

Short statement of the probable affinities of the oldest known insects, several species of which are distinguished.

Scudder, S. H. On the fossil insects from Illinois, the Miami and Hemeristia. *Amer. journ. sc.*, (2), 40: 269-271. 8°. N. Haven. 1865.

Discussion of the affinities of two carboniferous insects, previously described by Dana.

Scudder, S. H. [Remarks on some fossil insects from the carboniferous formation of Illinois and from the devonian rocks of New Brunswick.] *Proc. Bost. soc. nat. hist.*, 10: 95-96. 8°. Boston. 1865.

Merely an abstract of the two preceding papers.

Scudder, S. H. An inquiry into the zoological relations of the first-discovered traces of fossil neuropterous insects in North America; with remarks on the difference in structure in the wings of living Neuroptera. 4°. [Boston.] 1866. pp. 20, pl. *Mem. Bost. soc. nat. hist.*, 1, 173-192, pl. 6. 4°. Boston. 1866.

Full treatment of the structure and relationship of Miami and Hemeristia, which are referred to separate families, distinct from recent types. The wing structure of the modern families is also systematically reviewed.

Scudder, S. H. Results of an examination of a small collection of fossil insects obtained by Prof. William Denton in the tertiary beds of Green River, Colorado. *Proc. Bost. soc. nat. hist.*, 11, 117-118. 8°. Boston. 1867.

The same; with slight additions. Hollister, *Mines of Colorado*, pp. 380-383. 12°. Springfield. 1867.

A bare statement of the relations of the insects. An abstract occurs in *Amer. nat.*, 1: 56. 8°. Salem. 1867.

Scudder, S. H. On *Mormolucoides articulatus*. *Proc. Bost. soc. nat. hist.*, 11: 140. 8°. Boston. 1867. Considers this triassic species to be a coleopterous larva.

Scudder, S. H. [Notice of fossil insects from the devonian rocks of New Brunswick and on Haplophlebium Barnesii.] *Proc. Bost. soc. nat. hist.*, 11: 150-151. 8°. Boston. 1867.

Amer. nat., 1: 445-446. 8°. Salem. 1867.

Refers the devonian insects to new families of Neuroptera and the carboniferous Haplophlebium probably to the Ephemeridae.

Scudder, S. H. The insects of ancient America. *Amer. nat.*, 1, 625-631, pl. 16. 8°. Salem. 1868.

A popular account of those then known.

Scudder, S. H. [Remarks on two new fossil insects from the carboniferous formation in America.] *Proc. Bost. soc. nat. hist.*, 11: 401-403. 8°. Boston. 1868.

Scudder, Entom. notes, 1: 7-9. 8°. Boston. 1868. *Amer. journ. sc.*, (2), 46: 419-421. 8°. New Haven. 1868.

Describes *Megathentomum pustulatum* and *Archegogryllus priscus*. Abstract in *Amer. nat.*, 2: 390. 8°. Salem. 1869.

Scudder, S. H. Entomological notes. I. 8°. [Boston. 1868.] pp. 11.

Reprints the preceding paper, with others.

Scudder, S. H. The fossil insects of North America. *Geol. mag.*, 5: 172-177, 216-222. 8°. London. 1868.

A review of the 87 species then known and of their geological relations. Abstracts will be found in the *Amer. nat.*, 1: 557-8°. Salem. 1867; — *Can. nat.*, (2), 3: 293-294. 8°. Montreal. 1868; — *Quart. journ. sc.*, 5: 409. 8°. London. 1868; — and *Pop. sci. rev.*, 7: 318-319. 8°. London. 1868.

Scudder, S. H. Descriptions of fossil insects, found on Mazon Creek and near Morris, Grundy co. Illinois. Worthen, *Geol. surv. Ill.*, 3: 566-572, *figs.* 1-10. 8°. [Springfield?] 1868.

Describes nine new carboniferous insects, mostly Neuroptera. It is also marked as a Supplement to Descriptions of articulates.

Scudder, S. H. On the fossil myriopods of the coal formations of Nova Scotia and England [abstract.] *Quart. journ. geol. soc. Lond.*, 25, 1: 441. 8°. London. 1869.

Scudder, S. H. [Fossil insects found at the petrified fish-cut, Green River.] Hayden, *sun pict. Rocky mount. scen.*, p. 98. 4°. New York. 1870.

Mentions in general terms the affinities of an ant and a fly.

Scudder, S. H. Description d'un nouveau papillon fossile (*Satyrites Reynesii*) trouvé à Aix en Provence. 8°. Paris. 1872. pp. 7, pl. 1. *Rev. mag. zool.*, 1871-72: 66-72, pl. 7.

EXTRACT: Description of a new fossil butterfly (*Satyrites Reynesii*) found at Aix in Provence. 8°. London. 1872. pp. 2, pl. 1. *Geol. mag.*, 9: 532-533, pl. 13, *figs.* 2, 3.

Also entitled on cover: On a new fossil butterfly. The English translation is by the editor. The species is from the tertiary.

Scudder, S. H. Fossil insects from the Rocky Mountains. 8°. Salem. 1872. pp. 4. *Amer. nat.*, 6: 665-668. 8°. Salem. 1872.

A general notice of a collection of insects made by Richardson in the tertiary Green River deposits of Wyoming. Noticed in *Trans. ent. soc. Lond.*, (2), 1874: 47-48. 8°. London. 1874.

Scudder, S. H. On the carboniferous myriapods preserved in the sigillarian stumps of Nova Scotia. *Mem. Bost. soc. nat. hist.*, 2: 231-239. 4°. Boston. 1873.

Describes two genera and several species besides the *Xylobius sigillariae* of Dawson. Abstract in *Amer. Journ. sc.*, (3), 6: 225-226. 8°. N. Haven. 1873.

Scudder, S. H. [On an English fossil insect described as lepidopterous.] *Proc. Bost. soc. nat. hist.*, 16: 112. 8°. Boston. 1874.

Considers *Palaeontina oolitica* Butler as homopterous rather than lepidopterous. See also Butler, A. G.

Scudder, S. H. Two new fossil cockroaches from the carboniferous of Cape Breton. *Can. nat.*, (n. s.), 7: 271-272, figs. 1-2. 8°. Montreal. 1874.

Describes *Blattina Heeri* and *B. bretonensis*.

Scudder, S. H. The tertiary Physopoda of Colorado. 8°. Washington. 1875. pp. 3. *Bull. U. S. geol. geogr. surv. terr.*, 2: 221-223. 8°. Washington. 1875.

Describes one genus and three species.

Scudder, S. H. Fossil butterflies. *Mem. Amer. assoc. adv. sc.*, I. 4°. Salem. 1875. pp. 12, 99, pl. 3.

Describes in detail the generic and specific characters of the five known species, besides four new ones, all from European tertiaries. After an historical introduction there are sections on their geological relations, the probable food plants of their caterpillars, the present distribution of their nearest allies, and the fossils believed to be erroneously referred to butterflies. More or less extended abstracts will be found in *Arch. sc. phys. nat.*, n. s., 55: 102-103; 57: 91-92, 8°. Genève. 1876; — *Nemes jährt. miner.*, 1877: 445-447. 8°. Stuttgart. 1877; — *Amer. Journ. sc.*, (3), 11: 74-75. 8°. N. Haven. 1876; — *Amer. nat.*, 10: 53, 106-107. 8°. Salem. 1876. See also Boisduval, J. A.; and Lefebvre, A.

Scudder, S. H. Remarks on some remains of insects occurring in carboniferous shale at Cape Breton. *Proc. Bost. soc. nat. hist.*, 18: 113-114. 8°. Boston. 1875.

Scudder, *Ent. notes*, 5: 2-3. 8°. Boston. 1876.

Notifies the discovery of cockroach wings and the larva of a dragon-fly at Sidney.

Scudder, S. H. Supplementary note on fossil myriapods. 4°. Boston. 1878. p. 1, figs. *Mem. Bost. soc. nat. hist.*, 2: 561-562, figs. 4°. Boston. 1878.

Description of figures of the different species, omitted from a former paper.

Scudder, S. H. Fossil Orthoptera from the Rocky Mountain tertiaries. *Bull. U. S. geol. geogr. surv. terr.*, ser. 2: 447-449. 8°. Washington. 1876.

Describes a *Labidura* and a *Hémocogamia*.

Scudder, S. H. [Lettre à M. de Selys-Longchamps.] *Compt. rend. soc. ent. Belg.*, (2), no. 21, p. 2. 8°. Bruxelles. 1876.

Ann. soc. ent. Belg., 19, *compt. rend.*, 2. 8°. Bruxelles. 1876.

Expressing an opinion against the lepidopterous character of *Breyeria*. Translation by de Selys.

Scudder, S. H. New and interesting insects from the carboniferous of Cape Breton. 8°. Salem. 1876. pp. 2, figs. *Proc. Amer. assoc. adv. sc.*, 24: B, 110-111, figs. 1-2. 8°. Salem. 1876.

Description of the cockroach and larval dragon-fly mentioned in a preceding paper.

Scudder, S. H. *The same.* 8°. Montreal. 1876. pp. 2, figs. *Can. nat.*, (n. s.), 8: 88-90, figs. 1-2. 8°. Montreal. 1876.

Scudder, S. H. Fossil Coleoptera from the Rocky Mountain tertiaries. *Bull. U. S. geol. geogr. surv. terr.*, 2: 78-87. 8°. Washington. 1876.

Describes thirty species mostly from Greco River, Wyoming, and White River, Colorado.

Scudder, S. H. Brief synopsis of the North American earwigs, with an appendix on the fossil species. *Bull. U. S. geol. geogr. surv. terr.*, 3: 249-260. 8°. Washington. 1876.

The Note on the fossil species occurs on pp. 259-260, discusses one species already known from the tertiary beds of Florissant, and describes another from the same locality.

Scudder, S. H. Critical and historical notes on Forficulariæ; including descriptions of new generic forms and an alphabetical synonymic list of the described species. *Proc. Bost. soc. nat. hist.*, 18: 287-332. 8°. Boston. 1876.

Scudder, *Ent. notes*, 5: 27-72. 8°. Boston. 1876.

Includes the fossil forms, of which eight species are enumerated.

Scudder, S. H. Entomological notes, V. 8°. Boston. 1876. pp. 72.

Reprints, with other matter, the last-mentioned paper and Remarks on some . . . insects . . . at Cape Breton.

Scudder, S. H. Fossil palaeozoic insects, with a list of described American insects from the carboniferous formation. *Geol. mag.*, (n. s.), dec. 2, vol. 3, pp. 519-520. 8°. London. 1876.

Gives a list of thirty species. Entitled in table On fossil insects from the coal measures.

Scudder, S. H. On the close affiliation of the insects of Europe and America in the carboniferous epoch. *Proc. Bost. soc. nat. hist.*, 18: 358-359. 8°. Boston. 1876.

As intimately related as now.

Scudder, S. H. Note on fossil ants from South Park, Colorado. *Amer. nat.*, 11: 191. 8°. Salem. 1877.

Scudder, S. H. The insects of the tertiary beds at Quesnel (British Columbia). 8°. [Montreal. 1877.] pp. 15. *Rep. progr. geol. surv. Can.*, 1875-76: 266-280. 8°. [Montreal.] 1877.

Describes twenty-four species of various orders.

TRANSLATION: Les insectes des lits tertiaires de Quesnel. *Rapp. opér. expl. géol. Can.*, 1875-76: 294-310. 8°. [Montreal.] 1877.

Scudder, S. H. On the first discovered traces of fossil insects in the American tertiaries. *Bull. U. S. geol. geogr. surv. terr.*, 3: 741-762. 8°. Washington. 1877.

Describes the insects obtained by Denton in the White River beds, Colorado. Thirty-three species, mostly Diptera, are described and others enumerated.

Scudder, S. H. Description of two species of Carabidæ found in the interglacial deposits of Scarborough Heights, near Toronto, Canada. *Bull. U. S. geol. geogr. surv. terr.*, 3: 763-764. 8°. Washington. 1877.

Referred to *Loxandrus* and *Loricera*.

Scudder, S. H. Note on the wing of a cockroach from the carboniferous formation of Pittston, Penn. *Proc. Bost. soc. nat. hist.*, 19: 238-239. 8°. Boston. 1878.

Scudder, *Entom. notes*, 6: 35-36. 8°. Boston. 1878.

Describes *Blattina fascigera*.

Scudder, S. H. An insect wing of extreme simplicity from the coal formation. *Proc. Bost. soc. nat. hist.*, 19: 248-249. 8°. Boston. 1878.

Scudder, *Entom. notes*, 6: 37-38. 8°. Boston. 1878.

Describes *Euephemerites primordialis*.

Scudder, S. H. A carboniferous termes from Illinois. *Proc. Bost. soc. nat. hist.*, 19: 300-301. 8°. Boston. 1878.

Scudder, *Entom. notes*, 6: 54-55. 8°. Boston. 1878.

Describes *Termes contusus*.

Scudder, S. H. An account of some insects of unusual interest from the tertiary rocks of Colorado and Wyoming. *Bull. U. S. geol. geogr. surv. terr.*, 4: 519-543. 8°. Washington. 1878.

Describes ten insects of different orders, among them a remarkably perfect butterfly, *Prodryas Persephone*, and eggs and egg clusters of a gigantic sialid, *Corydalites fecundum*.

Scudder, S. H. Additions to the insect fauna of the tertiary beds at Quesnel (British Columbia). 8°. [Montreal. 1878.] pp. 8. *Rep. progr. geol. surv. Can.*, 1876-'77: 457-464. 8°. [Montreal.] 1878.

Describes six more species of different groups.

TRANSLATION: Additions à la faune entomologique des lits tertiaires de Quesnel, Colombie britannique. *Rapp. opér. comm. géol. Can.*, 1876-'77: 514-522. 8°. [Montreal.] 1878.

Scudder, S. H. Entomological notes, VI. 8°. Boston. 1878. pp. 55, pl.

Reprints, among other matter, three short papers already mentioned.

Scudder, S. H. The fossil insects of the Green River shales. *Bull. U. S. geol. geogr. surv. terr.*, 4: 747-776. 8°. Washington. 1878.

Describes fifty-five species of different groups with notes on seventeen others.

Scudder, S. H. The early types of insects; or the origin and sequence of insect life in palaeozoic times. *Mem. Bost. soc. nat. hist.*, 3: 13-21. 4°. Boston. 1879.

A general review of paleozoic insects, attempting to show "that the laws of succession of the insect tribes are quite similar to those which have long been known to hold in other groups of the animal kingdom; and that the facts are, in the main, such as the theory of descent demands." The general conclusions are summarized under twelve heads. It is noticed and criticised by de Borre in *Compt. rend. soc. ent. Belg.*, (2), no. 65, p. 11. 8°. Bruxelles. 1879.

TRANSLATION: Les premiers types d'insectes; origine et ordre de succession des insectes dans la période paléozoïque. *Arch. sc. phys. nat.*, (3), 3: 353-371. 8°. Genève. 1880.

The translation is by A. Humbert. Some notes, especially the bibliographical, are omitted.

ABSTRACT: The early types of insects. Abstract of a paper read before the National academy of sciences, Nov. 5, 1878. *Am. journ. sc. arts*, (3), 17: 72-74. 8°. New Haven. 1879.

Science News, 1: 22-23. 8°. Salem. 1878.

This contains the general conclusions.

TRANSLATION: Urtypen der insecten. *Kosmos*, 5: 61-62. 8°. Leipzig. 1879.

A translation of the abstract, with notes by the editor.

Scudder, S. H. The fossil insects collected in 1877, by Mr. G. M. Dawson, in the interior of British Columbia. *Rep. progr. geol. surv. Can.*, 1877-'78: B, 176-186. 8°. Montreal. 1879.

Describes sixteen species of different orders. Also published separately with half-title on cover: Insects from the tertiary beds of the Nicola and Similkameen rivers, British Columbia. 8°. [Montreal. 1879.] pp. 11.

TRANSLATION: Insectes fossiles recueillis en 1877, par M. G. M. Dawson, dans l'intérieur de la Colombie-britannique. *Rapp. opér. comm. géol. Can.*, 1877-'78: B, 211-223. 8°. [Montreal. 1879.]

Scudder, S. H. Palaeozoic cockroaches; a complete revision of the species of both worlds, with an essay toward their classification. *Mem. Bost. soc. nat. hist.*, 3: 23-134, pl. 2-6. 4°. Boston. 1879.

The first attempt to classify any group of paleozoic insects of both worlds by characters drawn from the venation of the wing. More than sixty species (thirteen of them new) are described and figured; they are divided into two tribes and eleven genera, and separated as a whole from modern cockroaches under the name *Palaeoblattaria*. See also Geinitz, F. E.

Scudder, S. H. The insect basin of Florissant. *Psyche*, 3: 77. 8°. Cambridge. 1880.

Scudder, S. H. The devonian insects of New Brunswick. 4°. Boston. 1880. pp. 41, pl. 1. *Anniv. mem. Bost. soc. nat. hist., scient. papers, art.* (3). 4°. Boston. 1880 [1881]. pp. 41, pl. 1.

Detailed descriptions of six species, the oldest in the world, with a study of their affinities. A jurassic may-fly is also described and the general conclusions summarized at the close.

EXTRACT: Relations of devonian insects to later and existing types. *Amer. journ. sc. arts*, (3), 21: 111-117. 8°. New Haven. 1881.

Ann. mag. nat. hist., (5), 7: 255-261. 8°. London. 1881.

Gives the general conclusions in full.

ABSTRACT: The devonian insects. *Amer. nat.*, 14: 905-907. 8°. Philadelphia. 1880.

ABSTRACT: The devonian insects of New Brunswick. *Science*, 1: 292-293. 4°. New York. 1880.

The above give the general conclusions somewhat condensed. More or less extended abstracts or notices will also be found in *Arch. sc. phys. nat.*, (3), 5, 291-293 (by A. Humbert). 8°. Genève. 1881;—*Bull. soc. ent. ital.*, 12: 279-280. 8°. Firenze. 1881;—*Naturforscher*, 1881: 141-143. 4°. Berlin. 1881;—*Nation*, 32: 150. 4°. New York, 1881. Also criticisms of the whole or part in *Nature*, 23: 483-484 (by H. A. Hagen). 4°. London. 1881;—*Bull. mus. comp. zool.*, 8: no. 14, pp. 275-284 (by the same). 8°. Cambridge. 1881;—*and Nature*, 23: 507 (by A. E. Eaton). 4°. London. 1881.

Scudder, S. H. The structure and affinities of *Euphoberia Meek* and *Worthen*, a genus of carboniferous Myriapoda. *Amer. journ. sc. arts*, (3), 21: 182-186. 8°. New Haven. 1881.

Points out the distinction between the carboniferous and modern diplopodous myriapods, and proposes a distinct suborder, *Archipolyptoda*, for the former.

Scudder, S. H. Some recent publications on fossil insects. *Psyche*, 3: 138. 8°. Cambridge. 1880.

A review of Goss's papers.

Scudder, S. H. White ants in the American tertiary. *Harv. univ. bull.*, 2: 219. 4°. Cambridge. 1881.

Note on the relation of the six species from Florissant to those of other tertiary deposits; they indicate a warm climate.

Scudder, S. H. Two new British carboniferous insects, with remarks on those already known. *Geol. mag.*, (2), 8: 293-300, fig. 8°. London. 1881.

The only two hexapods hitherto known (excepting a cockroach) are *Neoptera* and not *Orthoptera* as had been recently maintained. Two new species are described, *Archaeoptilus ingens*, the largest paleozoic insect known, and *Brodia priscotineta*, remarkable for the preservation of the colored bands of the wing. Separates (without change of pagination) bear on the cover the title *New carboniferous insects*.

ABSTRACT: Upon the carboniferous insects of Great Britain. *Harv. univ. bull.*, 2: 175. 4°. Cambridge. 1881.

Scudder, S. H. [Exhibition of a carboniferous cockroach.] *Psyche*, 3: 186. 4°. Cambridge. 1881.

Showing difference in venation of opposite wings.

Scudder, S. H. The tertiary lake basin at Florissant, Colorado, between South and Hayden Parks. *Bull. geol. geogr. surv. terr.*, 6: 279-300, map. 8°. Washington. 1881.

The first half is descriptive of the locality and its geology; the paleontological portion is mainly devoted to insects and plants, of which a running systematic review is given. The conclusion is reached that the beds, the most prolific of insects in the world, "belong in or near the oligocene." An abstract will be found in *Harv. univ. bull.*, 2: 267. 4°. Cambridge. 1881. It was also read before the Boston natural history society. See *Proc. Bost. soc. nat. hist.*, 21: 81. 8°. Boston. 1881.

Scudder, S. H. [Exhibition of carboniferous centipedes.] *Proc. Bost. soc. nat. hist.*, 21: 82. 8°. Boston. 1881.

Scudder, S. H. Remarks on remarkable carboniferous millipedes. *Proc. Bost. soc. nat. hist.*, 21: 122. 8°. Boston. 1881.

They form a distinct suborder.

Scudder, S. H. On Lithosialis bohémica. *Proc. Bost. soc. nat. hist.*, 21: 167. 8°. Boston. 1881.

Reviews Novák's description of *Gryllacris bohémica*, showing that it is neuropterous not orthopterous.

Scudder, S. H. Fossil spiders. *Harv. univ. bull.*, 2: 302-303. 8°. Cambridge. 1882.

Reviews the arachnid fauna of Florissant, Col., and shows its relation to the forms of the European tertiaries.

Scudder, S. H. See also **Brodie, P. B.**; **de Borre, A. P.**; **Dawson, J. W.**; **Fontaine, W. M.** and **White, J. C.**; **Hagen, H. A.**; **Lefebvre, A. A.**; **Packard, A. S.**; **Peale, A. C.**; and **White, C. A.**

de Selys-Longchamps, Michel Edmond. See **de Borre, A. P.**; **Scudder, S. H.**; and **de Selys-Longchamps, M. E.**, and **Hagen, H. A.**

de Selys-Longchamps, Michel Edmond, et **Hagen, Hermann August.** Revue des odonates ou libellules d'Europe. 8°. Bruxelles, etc. 1850. pp. 22, 408, pl. 11, tableaux 6.

Contains, pp. 356-364, Énumération des odonates fossiles d'Europe, by Dr. Hagen with a few notes by Baron de Selys; and pp. 365-368 Note sur l'énumération des odonates fossiles d'Europe, by de Selys. In the former 39 species are enumerated with synonymy and brief notes; in the latter they are discussed by formations and the conclusion reached that Aeschnidae preceded the Agrionidae and Libellulidae.

Sendelius, Nathaniel. Verschiedene erinnerungen von dem succino prussico. *Contin. gelehrt. Preussen*, 1725, quart. 2, no. 3. 8°. Thorn. 1725.

Not seen. Title furnished by Dr. Hagen.

Sendelius, N. Nathanaelis Sendelii . . . electrologiae per varia tentamina historica ac physica continuandae missus primus De perfectione succinorum operibus naturae et artis promotae testimoniisque rationis et experientiae demonstrata. 4°. Elbingae. 1725. pp. 56.

Reviewed in *Acta erud.*, 1725: 374-376. 4°. Lipsiae. 1725.

Sendelius, N. *The same.* Missus secundus, De mollitie succinorum et inde emergentibus contentis variis animalibus, vegetabilibus, mineralibus atque aquis. 4°. Elbingae. 1726. pp. 64.

Sendelius, N. *The same.* Missus tertius, De prosapia succinorum et eorum variis affectionibus, vi electrica, colore, odore, sapore. 4°. Elbingae. [1728.] pp. 56.

These titles are furnished by Dr. Hagen, who also quotes, but not verified by him, the English translation in *Acta germ.*, 1743: 340-353, 360-366, 389-405. 4°. London. 1743.

Sendelius, N. Historia succinorum corpora aliena involventium et naturae opere pictorum et caelatorum ex regis Augustorum cimeliis Dresdae conditis aeri insculptorum conscripta. 4°. Lipsiae. 1742. pp. 10, 328, tab. 13.

A large part of the book and nearly seven of the plates are given up to insects, but amber and copal insects are, as is well known, not distinguished, and the book has therefore far less value and interest than it otherwise would possess.

Reviewed in *Nova acta erud.*, 1743: 49-56. 4°. Leipzig. 1743 (the insects mentioned on pp. 50-52); also, according to Boehmer (references unverified) in *Nouv. bibl. germ.*, 3: 1; 6: 385; *Commerc. litt. med. sc. nat.*, 23: 177. 4°. Norimbergiae. 1742; *Leips. gel. zeit.*, 1742: 414. 8°. Leipzig. 1742; *Zuwerl. nachr. gegenw. zust. wiss.*, 34: 778. 8°. Leipzig.

See also **Guerin-Meneville, F. E.**

Sendelius, N. De succino indico, ad virum nobilissimum atque experientissimum dominum Johannem Philippum Breynium epistola, prodromi loco electrologiae suae propediem edendae scripta.

Breyne, Melon. petref. mont. Carmel, 35-48. 4°. Lipsiae. 1722.

Entitled on Breyne's title-page: De pseudo-succino, quod paucos ante annos ex Africa in Belgium deferri coepit. It evidently refers to copal, and mentions, p. 40, the occurrence of insects "nostris similia." Noticed in *Bibl. germ.*, 5: 121.

de Serres, Pierre Marcel Toussaint. Suite du Mémoire sur les terrains d'eau douce, ainsi que sur les animaux et les plantes qui vivent alternativement dans les eaux douces et dans les eaux salées. *Journ. phys.*, 87: 161-178. 4°. Paris. 1818.

Refers, p. 173, to impressions of insects, principally of aptera and among them ilids, from the tertiaries of Castelnaud, France.

de Serres, P. M. T. Notice sur les cavernes à ossements fossiles des carrières de calcaire grossier, situées aux environs de Lunel Vieil, dans le département de l'Hérault. *Mém. soc. linn. Paris*, 5: 442-464. 8°. Paris. 1827.

§ V. Insectes, p. 457, gives a very brief account of the remains of Coleoptera found in the caverno.

de Serres, P. M. T. Note sur les arachnides et les insectes fossiles, et spécialement sur ceux des terrains d'eau douce. *Ann. sc. nat.*, 15: 98-108. 8°. Paris. 1828.

Ferr, Bull. sc. nat., 15: 181-189. 8°. Paris. 1828.

An extract from the next work, pp. 207-233, published in advance.

TRANSLATION: Bemerkung über die fossilen arachniden und insecten, besonders über diejenigen, welche in der süßwasserformation vorkommen. *Thon, Entom. archiv.*, 2, ii: 74-77. 4°. Jena. 1829.

ABSTRACT: Notiz über fossile arachniden und insecten, und besonders über diejenigen, welche in den niederschlägen des süßen wassers gefunden werden. *Froriep, Notiz. geb. nat.-heilk.*, 22: 337-342. 4°. Erfurt. 1828.

de Serres, P. M. T. Géognosie des terrains tertiaires, ou Tableau des principaux animaux invertébrés des terrains marins tertiaires, du midi de la France, etc. 8°. Montpellier et Paris. 1829. pp. 92, 277. "tableaux" 3, pl. 6.

Livre 4: Des arachnides et insectes fossiles, et spécialement de ceux des terrains d'eau douce du bassin tertiaire d'Aix occupies pp. 206-258, and includes a list of nearly 80 genera of Aix insects, besides, pp. 254-258, a Tableau général des arachnides et des insectes fossiles, d'après l'ordre de formations géologiques, in which 105 genera are specified and 226 species enumerated.

de Serres, P. M. T. Notes géologiques sur la Provence. *Actes soc. linn. Bord.*, 13: 1-82. 8°. Bordeaux. 1843.

Contains a list of insects of Aix, pp. 34-44.

de Serres, P. M. T. Note additionnelle à la Notice géologique sur la Provence. *Actes soc. linn. Bord.*, 13: 83-91. 8°. Bordeaux. 1843.

Continuation of preceding, with nothing on insects.

de Serres, P. M. T. Deuxième note additionnelle au Mémoire géologique . . . sur la Provence. *Actes soc. linn. Bord.*, 13: 170-172. 8°. Bordeaux. 1843.

Page 172 contains a Note relative an lépidoptère figuré au no. 4; but the butterfly, *Neorinopsis sepulta*, appears to have been published in a limited edition only, as the two or three copies I have examined do not contain it. Two years later Serres mentions its publication.

de Serres, P. M. T. Sur les fossiles du bassin d'Aix (Bouches du Rhône.) *Ann. sc. nat.*, (3), zool., 4: 249-256. 8°. Paris. 1845.

Pp. 251-254 are mostly given to combating the arguments drawn from the presence of *Cylo septima* in favor of the equatorial nature of the ancient climate of Aix.

de Serres, P. M. T. See **Pictet de la Rive, F. J.**

Signoret, Victor. See **Millière, P.**

Sismonda, Eugenio. Matériaux pour servir à la paléontologie du terrain tertiaire du Piémont. *Mem. accad. sc. Torino*, (2), 22 : 391-471, pl. 1-33. 4°. Torino. 1865.

Refers, p. 470, to the occurrence of the larva of *Libellula Doris* in the upper miocene beds of Guarène; it is figured, pl. 17, fig. 6.

Sivers, Henricus Jacobus. *Cvriosorum niendorpiensium*. 4°. Lybcaea. 1732.

Specimen IV sistens svccinorum descriptionem occupat pp. 65-81, with a plate. Reference furnished by Dr. Hagen.

Smith, Edward. On the stream works of Pentowan. *Trans. geol. soc. Lond.*, 4 : 404-409. 4°. London. 1817.

Records, p. 407, the "wings of coleopterous insects" at a depth of forty-six feet from the surface of the ground below layers of peat and sea mud in a section at Pentowan, Cornwall, half a mile from the coast.

Smith, E. J. A'Court. Discovery of remains of plants and insects. *Nature*, 11 : 88. 4°. London. 1874.

Notice of fossil insects in the tertiary beds at Gurnet Bay, Isle of Wight.

Smith, Frederick. See **Evans**, C. E.

Smith, Sidney Irving. Notice of a fossil insect from the carboniferous formation of Indiana. (Brief contributions to zoology from the museum of Yale College, no. ix.) 8°. [New Haven. 1871.] pp. 3. *Amer. Journ. sc.*, (3), 1 : 44-46. 8°. New Haven. 1871.

Describes *Paolia vetusta*, a neuropterous insect.

Snellen van Vollenhoven, Samuel Constant. *Eugereon Boecking*. *Verlag alg. vergad. nederl. entom. vereen.*, 22 : 13. 8°. 'sGravenhage. 1867.

Tijdschr. v. entom., (2), 3 : 13. 8°. 'sGravenhage. 1868.

Denies that there are any purely hemipterous characteristics in *Eugereon*; but regards it as simply neuropterous.

Spener, Christian Maximilian. See **Vallisneri**, A.

Stanton, Henry Tibbats. See **Bolton**, J.

Stein, Johann Philipp Emil Friedrich. Drei merkwürdige bernstein-insecten. *Mitth. münch. entom. ver.*, 1 : 28-30. 8°. München. 1877.

Not seen. Describes two Coleoptera and one Hymenopteron.

Steinbeck, A. Ueber die Bernsteinengewinnung bei Brandenburg an der Havel. 12°. Brandenburg. 1841. *Neue nat. natur- heilk.*, 14 : 257-263. 4°. Weimar. 1840.

Separate publication not seen. Notices, p. 262, collections of amber insects made by Schirrmeister and himself, showing the fauna to be the same as that of the amber of the Baltic coast.

An abstract will be found in *Neues Jahrb. mineral.*, 1844 : 121-122. 8°. Stuttgart. 1844.

Sternberg, Kasper. Vortrag des Präsidenten . . . in der allgemeinen versammlung des böhm. museums am 14 April, 1835. *Verh. gesellsch. vaterl. mus. Böhm.*, 1835 : 12-30. 16°. Prag. 1835.

Contains, pp. 23-24, a history of the discovery of the scorpion described in same volume by Corda.

Sternberg, K. Insektengänge im blatte der *Flabellaria borassifolia*. *Verhandl. gesellsch. vaterl. mus. Böhm.*, 1836 : 34-35, pl. 1, figs. 3-4. 16°. Prag. 1836.

Showing mines of an insect "ganz so, wie es die larven der blattschaben in dem parenchym der blätter jetztweltlicher pflanzen hinterlassen."

Sterzel, J. T. Ueber *Palaeojulus dyadicus*. *Neues Jahrb. miner.*, 1878 : 729-731. 8°. Stuttgart. 1878.

Considers the fossil described by Geinitz as a myriapod to be a fern-leaf, of a species of *Scolecoperis*.

Sterzel, J. T. Ueber *Palaeojulus dyadicus* Geinitz und *Scolecoperis elegans* Zenker. *Zeitschr. deutsch. geol. gesellsch.*, 30 : 417-426, taf. 19. 8°. Berlin. 1878.

Mainly devoted to showing that no animal remains have been found which possess the characters assigned to *Palaeojulus dyadicus*; but this so-called myriapod is the half of a leaf of *Scolecoperis elegans*, a fern.

Sterzel, J. T. Ueber *Scolecoperis elegans* Zenker und andere fossile reste aus dem hornstein von Altendorf bei Chemnitz. *Zeitschr. deutsch. geol. gesellsch.*, 32 : 1-18, taf. 1-2. 8°. Berlin. 1880.

Has a brief reference to *Palaeojulus dyadicus* on pp. 1-2.

Sterzel, J. T. Ueber zwei neue insektenarten aus dem karbon von Lugan. *Ber. naturw. gesellsch. Chemnitz*, 7 : 271-276, pl. 80. Chemnitz. 1881.

Describes and figures *Blattina* (*Etoblattina*) *lanceolata* and *Termes* (*Mixotermes*?) *lugaensis*.

Stizenberger, Ernst. Uebersicht der versteinerten des grossherzogthums Baden. 8°. Freiburg i. B. 1851. pp. 144.

A list of Oeningen insects compiled from the first two parts of Heer's work occurs on pp. 95-101 with references to collections; and on p. 119 a reference to eggs and larvae of beetles and flies from the alluvium of the Rhine.

Stoehr, Emilio. Notizie preliminari su le piante ed insetti fossili della formazione solifera in Sicilia. *Bull. com. geol. Ital.*, 1875, 284-287. 8°. Roma. 1875.

The insects from Girgenti are determined by Dr. von Heyden, p. 286, as larvae of *Libellula Doris* Heer and *L. Eurynome* Heer, the former in great quantities; both are Oeningen species.

Strickland, Hugh Edwin. On the occurrence of a fossil dragon-fly in the lias of Warwickshire. *Mag. nat. hist.*, (n. s.), 4 : 301-302, figs. 11-13. 8°. London. 1840.

Description of *Aeshna liassina*.

Strickland, H. E. On the results of recent researches into the fossil insects of the secondary formations of Britain. *Rep. Brit. assoc. adv. sc.*, 1845, notices, 58. 8°. London. 1846.

A general account of what had been published by Brodie, with a few general deductions.

Swagerman, Everard Pieter. Waarneeming omtrent de insecten, welken in de gomlak gevonden worden. *Verhand. zeeuwusch. genootsch. wetensch. Vliss.*, 7, ii : 227-258. pl. 80. Middelburg. 1780.

Swinton, A. H. Notes on certain fossil Orthoptera claiming affinity with the genus *Gryllacris*. 8°. [London. 1874.] pp. 5. pl. *Geol. mag.*, (2), 1 : 337-341, pl. 14. 8°. London. 1874.

Entitled on cover of separate On fossil Orthoptera. Claims to show that the carboniferous *Corydalis Brongniarti* is a *Gryllacris*, and discusses the tertiary species which have been referred to *Gryllacris*.

Swinton, A. H. Insect variety : its propagation and distribution; treating of the odours, dances, colours, and music in all grasshoppers, cicadae and moths; beetles, leaf-insects, bees, and butterflies; bugs, flies, and ephemerae; and exhibiting the bearing of the science of entomology on geology. 8°. London, etc. [1880.] pp. 10, 326, pl. 7.

Notices the stridulation of extinct insects, pp. 163-164; and reviews the strata containing insect remains in a discursive manner, pp. 260-271.

Swinton, A. H. A study of the variation of the small tortoise-shell butterfly (*Vanessa urticae*.) *Harv. science gossip*, 1881 : 147-149, 176-179, figs. 88, 104, 105. 1. 8°. London. 1881.

A study of the evolution and specialization of butterflies and moths, showing how the markings of the wings of fossil Lepidoptera harmonize with the systematic design found in recent species; in figs. 104, 105 on p. 177 he attempts restorations of *Neorinopsis sepulta* and a tertiary *Bombyx*, both from Aix.

T(ate), R(alph). See **d'Eichwald, É.**
Tate, Ralph, and Blake, J. F. The Yorkshire lias. 8°. London. 1876. pp. 12, 475, 12, pl. 19, 4, map.

Class Insecta by J. F. Blake, p. 426, pl. 16 (pars). Figures without description a Buprestites and a Chaulioides.

Taylor, J. E. The geological antiquity of flowers and insects. *Pop. science review*, 17 (n. s., 2): 36-52, figs. 8°. London. 1878.

Points out "a broad parallelism between the appearances of the more differentiated types of the vegetable kingdom and the development or appearance of various orders of insects;" and on pp. 43-44 gives an account of the general distribution of insects in geological times.

Taylor, Richard Cowling. Illustrations of antediluvian zoology. Articulated animals. Loud., *Mag. nat. hist.*, 3: 361. 8°. London. 1830.

Notices Coleoptera from Stonesfield slate, coal shale of Yorkshire, peat beds of Norfolk, Yorkshire and Lincolnshire coasts, Mount's bay in a submarine forest, and at the Danby coal pits, Yorkshire.

Thorell, T. On European spiders; part I. Review of the European genera of spiders, preceded by some observations on zoological nomenclature. 4°. Upsala. 1869-70. pp. 24, 242.

Contains remarks on fossil spiders, pp. 220-233, in which the affinities of the described species are discussed, and some new genera are founded.

Troost, Gerard. Description of a variety of amber, and of a fossil substance supposed to be the nest of an insect discovered at Cape Sable, Magothy river, Ann-Arundel county, Maryland. *Amer. journ. sc. arts*, 3: 8-15. 8°. New Haven. 1821.

Considers the nest found in a stratum of lignite, and which is described on pp. 10-11, to be "a kind of comb or nidus made by some insects around the twigs . . . of a tree."

TRANSLATION: Bernstein mit gall-insekten nestern vorkommend in Maryland in Nord-Amerika nach dem Dr. Troost zu Baltimore, frei bearbeitet von Gilbert. *Ann. phys.*, 70: 297-303. 8°. Leipzig. 1822.

Accompanied by foot-note, by Gilbert, and followed, pp. 303-304, by a Zusatz zu diesem aufsatze by the same in which certain similar appearances in European amber are noted. Gilbert considers them galls.

TRANSLATION: Ueber das vorkommen des bernsteins zu Cap-Sable in Nordamerika. *Jahrb. chem. phys.*, 4 (Fourn. chem. phys., 34): 434-439. 16°. Nürnberg. 1822.

The final notes are omitted and the phraseology slightly altered.

ABSTRACT: Vorkommen des bernsteins in Nord-Amerika. *Arch. bergb. hüttenw.*, 6: 416. 16°. Berlin. 1823.

Makes no reference to the "insect-nests."

TRANSLATION: Beschreibung einer varietät von bernstein (amber) und eines fossils, wahrscheinlich des nestes eines insekts, entdeckt bei Cap Sable, am Magothy-fluss, in Ann-Arundel county, Maryland. *Schrift. phys.-ökon. gesellsch. Königsb.*, 11: 54-58. 4°. Königsberg. 1871.

The translation, which is by Dr. Hagen, omits only about a page of unimportant matter in the concluding notes. It is embodied in an article by Dr. Berendt, entitled Ueber eine von Dr. G. Troost in Baltimore im jahre 1821 im American-journal of science gegebene beschreibung eines bernstein-vorkommens bei Cap Sable in Maryland; and is preceded and followed by remarks of Dr. Berendt which, however, do not refer to the insect-nests.

Troost, G. See also **Hagen, H. A.**

Unger, Franz. Ueber die pflanzen und insekten reste von Radoboj in Kroatien. Unger, *Reise notizen*, 1838: 26-33. 8°. [Wien. 1840?]

Not seen; an abstract will be found in *Neues jahrb. miner.*, 1840: 374-377. 8°. Stuttgart. 1840. Insects are mentioned on p.

377; there are no Coleoptera nor Lepidoptera; Diptera and Hymenoptera are most abundant; Neuroptera, Orthoptera and Hemiptera rarer. A single spider was found. The fauna is tropical rather than European.

The Reise notizen are referred to in no bibliographies. They appeared separately for 1838 and 1839, and were probably extracts from some local paper. Cf. *Neues jahrb. mineral.*, 1840: 726.

Unger, F. Chloris protogaea. Beiträge zur flora der vorwelt. 1°. Leipzig. Heft 1, pp. 4, 4, 1-16, pl. 1-5 (1840);—heft 2-3, pp. 5-24, 17-44, pl. 6-15 (1842);—heft 4-5, pp. 45-92, pl. 16-25 (1843);—heft 6-7, pp. 25-110, pl. 26-35 (1845);—heft 8-10, t. p., ded. pp. 93-150, pl. 36-50 (1847).

Insects are figured on pl. 4, 5, 11, 14, 15, 22, 28, 40, 44, 45, 48. All are from Radoboj.

Unger, F. Fossile insecten. 4°. [Breslau.] 1841. pp. 16, pl. 2. *Acta acad. caes. Leop.-Carol.*, 19, ii: 413-428, tab. 71-72. 4°. Vratislaviae et Bonnae. 1842.

Describes and figures eight Diptera from the tertiary beds of Radoboj; a geological section is given on the first plate, and the larger part of the paper, pp. 415-424, is given to an account of the locality.

Unger, F. Die fossile flora von Szántó in Ungarn. *Denkschr. kais. acad. wiss. Wien, math.-nat. cl.*, 30, i: 1-20, pl. 1-5. 4°. Wien. 1870.

Describes, pp. 3-4, and figures, pl. 1 figs. 13-14, the elytron and wing of a beetle, *Melolonthites parschlugiana*.

Unger, F. See also **Heer, O.**

Ussher, W. A. E. Pleistocene geology of Cornwall; part iv. Submerged forests and stream tin gravels. *Geol. mag.*, (2), 6: 251-263. 8°. London. 1879.

Refers in several places, on the authority of others, to the discovery of coleopterous remains in pleistocene deposits.

Ussher, W. A. E. The post-tertiary geology of Cornwall. 8°. Hertford. 1879. pp. (4), 59, pl. (1), figs.

Refers, pp. 30, 32, to the occurrence of elytra in alluvium and clay at different localities, on the authority of others.

Vaillant, Léon. Sur un geckotien de l'ambre jaune. *Bull. soc. philom. Paris*, 10: 65-67. 8°. Paris. 1873.

Mentions, p. 67, a couple of insects accompanying the reptile, afterwards more fully treated by Ustalet.

Valentini, Michael Bernhard. Museum museum oder Vollständige schau bühne aller materialien und specereyen etc. Zweyte edition. 3 v. 1°. Franckfurt am Mayn. 1714. Vol. 1: 3 t. p., pp. (24), 520 (16), 76, (4), 119;—vol. 2: 3 t. p., pp. (18), 196, (4), 116;—vol. 3: pp. (4), 218, (12), plts., figs.

Also with the title: D. Valentini schau bühne oder Natur- und materialien kammer, auch ostindianische send-schreiben und rapporten. Contains various references to insects in amber, original or quoted; see especially i. p. 516, ii. p. 60, and ii. anhang, pp. 93, 99.

Vallisneri, Antonio. Istoria del cameleonte affricano, e di varj animali d'Italia. 4°. Venezia. 1715. pp. (8), 200, tav. 5, 8.

Contains, pp. 181-190, an Epistola to Vallisneri by Spener upon various fossils, including insects, which are mentioned from the rocks of Thüringen on pp. 186-187, and from amber on p. 187. In the latter he recounts as in his possession "muscas, culices, araneas, formicas volantes, scolopendras aliaque animalcula."

de Verneuil, Philippe Édouard Poulletier. See **d'Archiac et de Verneuil, É.**

Viquesnel, Auguste. Note sur les environs de Vichy, département de l'Allier. *Bull. soc. géol. France*, 14: 145-155. 8°. Paris. 1842.

Refers on p. 149 to the cases of phryganids.

Vogel, Rudolf Augustin. *Practisches mineral-system. Zweyte vermehrte und verbesserte ausgabe.* 8°. Leipzig. 1776. pp. (22), 582.

Not seen. The first edition was published in 1762, and is said to contain reference to Oeningen insects.

Vogt, Karl. *Lehrbuch der geologie und petrefactenkunde. Zum gebrauch bei vorlesungen und zum selbstunterrichte. Zweite vermehrte und gänzlich umgearbeitete auflage.* 2 v. 8°. Braunschweig, 1854. Vol. 1, pp. 29, 642, pl. 8, (6); — vol. 2, pp. 31, 672, pl. (2.)

Insects are meagrely treated, with two or three figures copied from other works: i, pp. 336, 482, 638-639; ii, pp. 450, 451, 509-511.

Voigt, [C. G. ?] *Neueste acquisitionen des halle'schen mineralogischen museums. Ber. naturw. ver. Harzes, 1840-46 (2^e aufl.), p. 26.* 4°. Wernigerode. 1856.

Exhibition of four species of Blattina from Wettin and Löbejun, and of an insect to be called *Acridites carbonatus* by Germar; these were afterwards described by Germar in Münster's *Beiträge*.

Vollmar. *Ueber fossile entomologie.* Gistl, *Faunus*, 2: 56-62. 8°. München. 1835.

Of a general nature, closing with a list of fossil Coleoptera, borrowed from Keferstein.

van Volxem, Camille. *Note critique sur l'interprétation donnée par M. de Borre d'une . . . empreinte fossile, celle du Pachytylopsis Persenairei. Comtes rendus soc. ent. Belg.*, (2), 24: 20-26, fig. 8°. Bruxelles. 1876.

Ann. soc. ent. Belg., 19: 28-34. 8°. Bruxelles. 1876.

This posthumous note is introduced by explanatory remarks of Weyers. The author concludes that it is doubtful whether the fossil is the wing of an orthopteron; that it certainly is not an acridian, and has nothing in common with *Pachytylus*.

Walch, J. E. I. See **Knorr**, G. W.

Walchner, Fritz Hermann. *Der praktische naturforscher. Ein unentbehrliches hand- und hilfsbuch für freunde der naturwissenschaften.* 8°. Karlsruhe. 1842-44. pp. 1198. Each part also contains sep. t. p., and 1 f. table.

Abtheilung III, *Der petrefactolog* (1843), contains a chapter on Fossil insects, pp. 534-539, in which, especially in foot-notes, the genera then known are enumerated; nothing new is added.

Walker, John Francis. *Fossil insects in the Bournemouth leaf beds.* *Geol. mag.*, 7: 240. 8°. London. 1870.

A bibliographical reference.

Wallace, Alfred Russel. *The geographical distribution of animals; with a study of the relations of living and extinct faunas as elucidating the past changes of the earth's surface.* 2 v. 8°. London. 1876. — *The same*: New York. 2 v. 8°. 1876. Vol. 1, pp. 24, 503, pl. 13, maps 5; — vol. 2, pp. 10, 607, pl. 7, maps 2.

In a section entitled: *Antiquity of the genera of insects*, i, pp. 166-168 (both editions), he concludes that "many of the larger and more important genera of insects date back to the beginning of the tertiary period, or perhaps beyond it; but the family types are far older." The section abounds in errors.

Wallace, A. R. *Colour in nature.* *Nature*, 19: 501-505. 4°. London. 1879.

Review of Grant Allen's *Colour sense*, in which, p. 501, he contends for the probability of flowering plants and accompanying butterflies in the carboniferous.

Wallace, A. R. *Did flowers exist during the carboniferous epoch?* *Nature*, 19: 582. 4°. London. 1879.

Maintains the lepidopterous nature of *Breyeria*. See also McLachlan, R.

Wallace, A. R. See also **Anon**.

Wallerius, Johan Gottskalk. *Systema mineralogicum, quo corpora mineralia in classes, ordines, genera et species suis cum varietatibus divisa describuntur, atque observationibus, experimentis et figuris aeneis illustrantur. Editio altera correcta.* 2 vol. 8°. Vindobonae. 1778. Vol. 1, pp. (16), 448, (38), port., pl. — vol. 2, pp. (12), 640, (60), pl.

§ 154, ii, pp. 538-546: Entomolithi, contains, under the heads of Typolithi and Entoma, a catalogue of the fossil insects then known.

Wanklyn, A. *Description of some new species of fossil ferns from the Bournemouth leaf-bed.* *Ann. mag. nat. hist.*, (4), 3: 10-12, pl. I. 8°. London. 1869.

Mentions an undetermined insect.

Warren, John Collins. *Remarks on some fossil impressions in the sandstone of Connecticut River.* 8°. Boston. 1854. pp. 54, pl.

On p. 37 he refers some of the impressions as perhaps made "by the feet and bodies of large insects."

Waterhouse, Charles O. See **Woodward**, H.

Webster, Thomas. *On the fresh-water formations in the Isle of Wight, with some observations on the strata over the chalk in the south-east part of England.* *Trans. geol. soc. Lond.*, 2: 161-254. 4°. London. 1814.

Mentions, pp. 194, 206, branches of trees found in the tertiary clays of Sheppey, bearing excrescences produced by insects; and, p. 230, the discovery of beetles in the tertiary deposits at Newport.

Weiss, Christian Ernst. See **Dohrn**, A.

Westwood, John Obadiah. *Characters of Embia, a genus of insects allied to the white ants (Termites); with descriptions of the species of which it is composed.* *Trans. linn. soc. Lond.*, 17: 369-374, pl. 11. 4°. London. 1837.

In a postscript on p. 374, two species from gum copal are noticed.

Westwood, J. O. *On the economy of the genus Palmon of Dalman with descriptions of several species belonging thereto.* *Trans. entom. soc. Lond.*, 4: 256-281, pl. 10 pars. 8°. London. 1847.

Redescribes some of Dalman's copal insects; the living species whose economy is known are parasitic on eggs of Mantidae.

Westwood, J. O. *Description of the remains of fossil insects from the purbeck formation of Dorset and Wilts, and from the Stonesfield slate of Gloucestershire.* *Quart. journ. geol. soc. Lond.*, 9: proc. 344. 8°. London. 1853.

Unpublished; apparently the same as the next.

Westwood, J. O. *Contributions to fossil entomology.* *Quart. journ. geol. soc. Lond.*, 10: 378-396, pl. 14-18. 8°. London. 1854.

About one hundred and fifty specimens are figured and fifty-nine species named. They are nearly all from Purbeck strata, about half of them Coleoptera, and the remainder are referred mostly and about equally to Hemiptera, Orthoptera and Neuroptera. The separata have a title on reverse of p. 378.

Westwood, J. O. *Sur une empreinte trouvée en Angleterre dans les schistes houillers et supposée pouvoir être celle d'une chenille.* *Compt. rend. soc. ent. Belg.*, (2), no. 22, pp. 6-7. 8°. Bruxelles. 1876. *Ann. soc. ent. Belg.*, 19, *compt. rend.*, 4-5. 8°. Bruxelles. 1876.

Translation by Weyers of a passage of Westwood's from Brodie's work on the secondary insects of England, in which a supposed caterpillar (since recognized as a myriapod) is described. Weyers adds a few comments.

Westwood, J. O. See **Brodie**, P. B.; **Double-day**, E., and **Westwood**, J. O.; and **Woodward**, H.

Weyenbergh, H. Een kort overzicht der entomologische fossiele schatten van Teyler. *Tijdschr. entom.*, (2), 3: 195-196. 8°. 'sGravenhage. 1867.

Brief notice of the fossil arthropods of Teyler's museum.

Weyenbergh, H. Sur les insectes fossiles du calcaire lithographique de la Bavière, qui se trouvent au Musée Teyler. 8°. Harlem. 1869. t. p., pp. 48, pl. 4. *Arch. mus. Teyl.*, 2: 247-294, pl. 34-38. 8°. Harlem. 1869.

Describes forty-eight species, many of them new; preceded by a list of the sixty previously known jurassic hexapods, and followed by five pages of general considerations.

Weyenbergh, H. Prodrômus en algemeene beschouwing der fossiele insecten van Beijeren. 8°. [sGravenhage.] 1869. pp. 19. *Tijdschr. entom.*, (2), 4: 230-248. 8°. 'sGravenhage. 1869.

A list of one hundred and four insects is given, followed by general remarks, including, pp. 12-14 (241-243), a comparison of the secondary insects of England and Bavaria; pp. 231-234 are printed 131-134.

Weyenbergh, H. Notes sur quelques insectes du calcaire jurassique de la Bavière. 8°. Harlem. 1873. t. p., pp. 7. *Arch. mus. Teyl.*, 3: 234-240. 8°. Harlem. 1873.

Further discussion of the affinities of four species included in the preceding paper, especially of *Hasselides primigenius* (with the opinions of van Hasselt on this species) and of *Sphinx Sneleni*.

Weyenbergh, H. Varia zoologica et palaeontologica. *Peridd. zool., org. soc. entom. argent.*, 1: 77-111, lam. 2-3. 8°. Buenos Aires. 1874.

"Insectes fossiles," pp. 81-107, lam. 3, includes descriptions and discussion of half a dozen Solenhostin insects, of which two or three are new, followed by the list mentioned under the next entry, and a list, p. 107, of the secondary insects of Bavaria not represented in the Musée Teyler.

Weyenbergh, H. Énumération systématique des espèces qui forment la faune entomologique de la période mésozoïque de la Bavière; en même temps Supplément du Catalogue de la collection paléontologique du Musée Teyler. 8°. [Buenos Aires, 1874.] pp. 20. *Peridd. zool., org. soc. entom. argent.*, 1: 87-106. 8°. Buenos Aires. 1874.

Contains two hundred and sixty-five numbers, of which about thirty are undetermined; full references to descriptions and illustrations are added.

Weyers, Joseph/Leopold. See **de Borre, A. P.**; **van Volxem, C.**; and **Westwood, J. O.**

White, Adam. See **Hagen, H. A.**

White, Charles A. Report on the paleontological field work for the season of 1877. *Ann. rep. U. S. geol. surv. terr.*, 11: 161-272. 8°. Washington. 1879 [1880].

Contains a notice of *Corydalites fecundum* and its geological position.

White, C. A. Progress of invertebrate palaeontology in the United States for the year 1880. *Amer. nat.*, 15: 273-279. 8°. Philadelphia. 1881.

Notices papers by Scudder.

White, C. A., and Nicholson, H. A. Bibliography of North American invertebrate paleontology, being a report upon the publications that have hitherto been made upon the invertebrate paleontology of North America, including the West Indies and Greenland. 8°. Washington. 1878. pp. 132. *Misc. publ. U. S. geol. surv. terr.*, 10.

White, C. A., and Nicholson, H. A. Supplement to the Bibliography of North American invertebrate paleontology. *Bull. U. S. geol. surv. terr.*, 5: 143-152. 8°. Washington. 1879.

White, J. C. See **Fontaine, W. M., and White, J. C.**

Wiedemann, Christian Rudolph Wilhelm. See **Rathke, M. H.**

Wigand, Johannes. Vera historia de succino borvssico. De alce borvssica & de herbis in Borussia nascentibus. Item de sale creatura Dei saluberrima consideratio methodica & theologica per Iohannem VVigandvm D. Qvondam episcopum pomezaniensem. Iam vero primvm in studiosae iuuentutis gratiam in lucem edita. Studio et opera Iohannis Rosini pastoris vvickerstadensis. 12°. Ienae. [MD]XC. ff. (12), 153, (5).

In a section: De vermiculis in succino, ff. 26-29, he mentions culices, formicae, aranei parui papiliones.

Williston, Samuel Wendell. Some interesting new Diptera. *Trans. Conn. acad. arts sc.*, 4: 243-246, fig. 8°. New Haven. 1880.

In describing a new nemesitrid from Washington Territory, he discusses the fossil *Palembolus* of Florissant.

Winkler, T. C. Musée Teyler. Catalogue systématique de la collection paléontologique. 8°. Harlem. 1863. t. p., pp. 4, 608.

Arachnides, p. 421; Insectes, pp. 422-429. 265 numbers are given, including over two hundred undetermined species.

Wollaston, Thomas Vernon. Note on the remains of Coleoptera from the peat of Lexden brick-pit. *Quart. Journ. geol. soc. Lond.*, 19: 400-401. 8°. London. 1863.

Indicates briefly the generic affinities of a dozen species.

Wollaston, T. V. See also **Fisher, O.**

Woodward, Henry. Notes on some fossil crustacea, and a chilognathous myriapod, from the coal measures of the west of Scotland. *Trans. geol. soc. Glasgow*, 2: 234-248, pl. 3. 8°. Glasgow. 1867.

Describes a *Xylobius* on pp. 235-237, and enumerates the true insects from the coal formation on pp. 237-240.

ABSTRACT: Notes on a chilognathous myriapod and some fossil crustacea from the coal measures of the west of Scotland. *Geol. mag.*, 4: 130-131. 8°. London. 1867.

Woodward, H. On *Euphoberia Brownii* H. Woodw., a new species of myriapod from the coal-measures of the west of Scotland. *Geol. mag.*, 8: 102-104, pl. 3, figs. 6-7. 8°. London. 1871.

Describes and compares with *E. armigera* of the Illinois carboniferous beds.

Woodward, H. On the discovery of a new and very perfect arachnid from the ironstone of the Dudley coal-field. *Geol. mag.*, 8: 385-388, pl. 11. 8°. London. 1871.

Describes and figures a new specimen of the arachnid, to which Buckland, supposing it a beetle, formerly gave the name of *Careulioides Prestvicii*. A list of fifty-four paleozoic insects is appended. An abstract will be found in *Rep. Brit. assoc. adv. sc.*, 41: not., 112-113. 8°. London. 1872.

Woodward, H. A monograph of the British fossil crustacea belonging to the order Merostomata. 4°. London. 1866-1878. t. p., pp. 2, 263, pl. 36. [*Publ. paleontogr. soc.*, 1866-78.

Includes, pp. 171-174, in part iv. (1872), *Eurypterus* (*Euphoberia*) *ferox*, since held by Woodward and others to be a myriapod.

Woodward, H. On a new arachnid from the coal measures of Lancashire. 8°. London. 1872. p. 3. *Geol. mag.*, 9: 385-387. 8°. London. 1872.

Describes *Architarbus subovalis* and compares with *A. rotundatus* from carboniferous beds of Illinois. Also entitled on cover of separata: On a new fossil arachnid.

Woodward, H. On some supposed fossil remains of Arachnida (?) and Myriopoda from the English coal-measures. *Geol. mag.*, 10: 104-112, figs. 8°. London. 1873.

Separate also entitled: On British fossil arthropoda. 8°. London. 1873. pp. 9, figs. 11. Discusses the affinities of "Eurypterus? (Euphoberia) ferox," referring it to the Myriapods.

Woodward, H. On the discovery of a fossil scorpion in the British coal measures. *Quart. journ. geol. soc. Lond.*, 32: 57-59, pl. 8. 8°. London. 1876.

Describes and figures three distinct fragments of a scorpion, referred to one species called *Eoscorpion anglicus*. An abstract, under the title "The discovery of a fossil scorpion in the English coal measures" is given in *Hardw. sc. gossip*, 1876: 20. 8°. London. 1876.

Woodward, H. On a remarkable fossil orthopteran insect from the coal measures of Scotland. *Quart. journ. geol. soc. Lond.*, 32: 60-64, pl. 9. 8°. London. 1876.

Describes and figures *Lithomantis carbonarius*, which with Westwood, Waterhouse and McLachlan he considers as belonging in "the neighbourhood of the Mantidae." *Corydalis* (*Gryllacus*) *Brongniarti* and a modern species of *Blepharis* are also figured for comparison as related to it. A list of fifty-eight paleozoic insects is appended. An abstract, under the title "Remarkable fossil orthopteran insect from the coal measures of Britain," appeared in *Hardw. sc. gossip*, 1876: 20. 8°. London. 1876. See also Heer, O.

Woodward, H. On the occurrence of Branchipus (or Chirocephalus) in a fossil state, associated with Archaeoniscus and with numerous insect remains in the eocene fresh-water limestone of Gurnet Bay, Isle of Wight. *Geol. mag.*, n. s., 5: 88-89. 8°. London. 1878.

Abstract of the next, with slightly differing title, but published earlier than it, and containing a fuller list of insects.

Woodward, H. On the occurrence of Branchipus (or Chirocephalus) in a fossil state, associated with Eosphaeroma and with numerous insect remains in the eocene fresh-water (Bembridge) limestone of Gurnet Bay, Isle of Wight. *Quart. journ. geol. soc. Lond.*, 35: 342-350, pl. 14. 8°. London. 1879.

The insects are mentioned on p. 344, mostly in a List of insect remains from Gurnet Bay, near Cowes, Isle of Wight, determined by the late Frederick Smith. One hundred and

twenty-five specimens are mentioned but only eighteen genera or families specified and one species.

Woodward, H. See Evans, C. E.

Woodward, H. et al. Notes on fossil insect remains. *Geol. mag.*, 10: 1-2. 8°. London. 1873.

A résumé, by the editors of the journal, of papers that have appeared on the subject in their magazine, by Phillips, Kirkby, Scudder, Woodward and Butler.

Worthen, Amos Henry. See Meek, F. B., and **Worthen, A. H.**

Wyman, Jeffries. See Deane, J.

Yxem, E. Versteinerte insecten-zellen. *Ber. naturw. ver. Harzes*, 1840-46, 2^o ausf., p. 26. 4°. Wernigerode. 1856.

Exhibition of drawings of insect-cells like bee-comb from jurassic (?) beds at Chausseebau near Harsleben.

Zaddach, Ernst Gustav. Ueber die bernstein- und braunkohlenlager des Samlandes; erste abhandlung. *Schrift. phys.-ökon. gesellsch. Königsb.*, 1: 1-44, pl. 1-4. 4°. Königsberg. 1860.

Notices, pp. 3-4, the numbers of insects found in amber, all distinct from living forms; and on pp. 20-21 gives a table of the number of genera and species of the different orders of insects, with special mention of the remarkable genera *Archaea* and *Amphitometum*.

Zaddach, E. G. Amber; its origin and history, as illustrated by the geology of Samland. *Quart. journ. science*, 5: 167-185, pl. (2). 8°. London. 1868.

Mainly compiled from the author's previous writings on the amber beds. It contains, however, as new matter, a plate of amber insects with explanation by Frederick Smith and pp. 184-185, a list of the principal works on amber and the organic remains preserved in it, furnished by the editors.

☉ Termiten im Bernsteinwalde. *Neue preuss. prov.-blätt.*, (3), 1: 61-64. 16°. Königsberg. 1858.

A popular account, drawn from Hagen's *Monographie der termiten*.

APPENDIX.

In this appendix I have placed not only such references as were overlooked in printing the preceding pages, and those that have been published during the two years of its passage through the press, but also all contributions to the literature of fossil insects of which only incomplete memoranda could be obtained, through allusions to them in the works of others. Diligent search has been made for the early literature of the subject, and especially of amber insects. Perhaps not one half the works or papers concerning amber referred to in bibliographies have been procurable in this country, and of those seen comparatively few contain references to insect-enclosures. The scattered allusions to amber insects taken from older authors and published later than the seventeenth century have in general been left unnoticed, as wholly valueless and uninteresting; but all others, where possible, have been introduced into the list in a more or less perfect form. The best notice of the early literature of amber will be found in Boehmer's *Bibl. script. hist. nat.*, 4, 1: 468-477. 8°. Lipsiae. 1788. The few papers concerning the relationship of the *Merostomata* and *Arachnida* have also been introduced into this appendix, but the extensive literature of the *Merostomata* generally has not been added, as it should be, were the views of Van Beneden and Lankester to prove correct.

I am much indebted to many correspondents, but especially to Dr. H. A. Hagen, for assistance in preparing this bibliography, which will certainly strike even those well acquainted with the subject as unexpectedly extensive. More than four hundred authors are represented as having concerned themselves more or less with fossil insects. — S. H. S.

Agassiz, Jean Louis Rodolphe. The primitive diversity and number of animals in geological times. 8°. [New Haven.] 1854. pp. 16. *Am. journ. sc.*, (2), 17: 309-324. 8°. New Haven. 1854.

Devotes a paragraph on p. 8 (316) to insects, and prophesies their discovery anterior to the carboniferous period.

Aldrovandus, Ulysses. De animalibus insectis libri septem cum singulorum iconibus ad vivum expressis. f°. Bononiae. 1638. t. p., pp. (8), 767, (44).

The section, p. 700, De vermibus in lapidibus, & metallis nascentibus cap. 8, contains nothing original.

Aldrovandus, U. Mvsaeum metallicum in libros IIII distributum. f°. Bononiae. 1648. t. p., ff. 2, pp. 979, (13).

Cap. 18, De succino, sev electro, pp. 403-418, refers briefly to

insect inclusa on p. 406, under the side heading Quae animantes in succino sint.

André, Édouard. See Brongniart, C. J. E.

Assmann, A. Ueber die von Germar beschriebenen und im paläontologischen museum zu München befindlichen insecten aus dem lithographischen schiefer in Bayern. *Ann. ber. versamm. deutsch. naturf.*, 50: 191-192. 4°. München. 1877.

A brief statement of his views of the modern groups in which Germar's species should be placed.

Aurifer, Andr. Succini historia, oder Bericht woher der agt- oder börnstein ursprünglich komme. 4°. Königsberg. 1551.

Not seen. Dr. Hagen informs me that it contains references to insects in amber, and is therefore one of the earliest works mentioning them. He thinks, indeed, that Münster's earlier

mention of them may have been due to information received direct from Aurifaber; both were disciples of Luther. Later editions were published in 1557 and 1572 in 4°, and, rendered into Latin verse by Scholztius, in 1593 and 1671 in 8°.

Aycke, Johann Christian. Fragmente zur naturgeschichte des bernsteins. 16°. Danzig. 1835. pp. 8, 107.

Contains a section: In bernstein eingeschlossene organische gegenstände, pp. 58-64, where the author states that insects occur most frequently in transparent amber and in such as shows a concentric structure; often also in amber brought up from the sea and only rarely in that dug from the earth. He also criticises various authors and especially Schweigger for confounding copal and other gums with amber.

Aymard, A. Rapport sur les collections de M. Pichat-Dumazel. *Congr. scient. France, sess. 22* : 42. 8°. Le Puy. 1854.

Not seen; quoted from Onusta. Names but neither describes nor figures seven insects from Le Puy, of which three belong to Coleoptera, three to Diptera and one to Neuroptera.

Baily, William Hellier. Notice of plant remains from beds interstratified with the basalt in the county of Antrim. *Quart. journ. geol. soc. Lond.*, 25 : 162, 357-362, pl. 14-15. 8°. London. 1869.

Two elytra of beetles "of distinct species, resembling those of some of the smaller Carabidae," are mentioned, pp. 359-360, as occurring in the leaf-bed, and are figured, pl. 14, figs. 14-15; in the explanation of the plate, pp. 361-362, they are compared to Rhynchophora.

Bargagli, Piero. Di tre opuscoli sugli insetti fossile e sulle formazioni inglesi e straniere nelle quali sono stati scoperti avanze d'insetti, pubblicati da H. Goss. *Bull. soc. ent. ital.*, 12 : 127-138. 8°. Firenze. 1880.

A very full abstract of Goss's first paper.

Barrois, Jules. See **Debray, H.**

van Beneden, Édouard. De la place qui les limules doivent occuper dans la classification des arthropodes. *Comptes rend. séances soc. ent. Belg.*, 1871-72 : 9-11. 8°. Bruxelles. 1871.

Ann. soc. ent. Belg., 15, *compte rend.*, 9-11. 8°. Bruxelles. 1872.

TRANSLATION : On the systematic position of the king crabs and trilobites. *Ann. mag. nat. hist.*, (4), 9 : 98-99. 8°. London. 1872.

Concludes from a study of the embryonic development of *Limulus* that it presents the greatest analogy to that of scorpions and other arachnids from which the king crabs cannot be separated. "The Trilobites as well as the Eurypterida and the *Poecilopoda* must be separated from the class Crustacea, and form, with the Scorpionida and the other Arachnida, a distinct branch, the origin of which has still to be ascertained."

van Beneden, Pierre J. et **Coemans** Eugène. Note sur un insecte et un gastéropode pulmoné du terrain houiller. *Ann. sc. nat.*, (5), *zool.*, 7 : 264-277, pl. 1, figs. 1-10. 8°. Paris. 1867.

Reprint of the paper with similar title, *supra*.

Berendt, G. C. Bitte, die bei gräberien bisweilen vorkommenden fossilen zapfen, fossiles holz und bernstein-insekten betreffend. *Preuss. provinzt. blätt.*, 15 : 623-625. 16°. Königsberg. 1836.

Records, p. 625, the occurrence of a *Nepa* in amber.

Berendt, G. C. See also **Hope, F. W.**, and **Troost, G.**

Bertkau, P. Ueber einige fossile arthropodenreste aus der braunkohle von Rott. *Sitzungsb. niederrhein. gesellsch. Bonn*, 1878 : 70-71. 8°. Bonn. 1878.

Principally concerned with the arachnids described in his other paper quoted, and especially with *Argyroseta antiqua*.

Bleicher, Marie Gustave. Note sur la découverte d'un horizon fossilifère à poissons, insectes, plantes,

dans le tongrien de la Haute-Alsace. *Bull. soc. géol. France*, (3), 8 : 222-229. 8°. Paris. 1880.

Records, pp. 226-227, the occurrence at Rouffach of two insects, referred to Cicadariae and Hymenoptera, and of an apterous articulate, probably an isopod crustacean, but perhaps a cockroach.

Bock, Friedrich Samuel. Versuch einer wirthschaftlichen naturgeschichte von dem königreich Ost- und West-Preussen. 5 v. 16°. Dessau. 1782-85.

Bd. 2 (1783) contains a short passage, pp. 196-197, on insects in amber.

de Borre, Alfred Preudhomme. Note sur le *Breyeria borinensis* (*supra*). *Ann. soc. entom. Belg.*, 22, *compte rend.*, 77-83. 8°. Bruxelles. 1879.

de Bosniaski, S. La formazione gessoso-solfifera e il secondo piano mediterraneo in Italia. *Atti soc. tosc., sc. nat.* 2, *proc. verb.*, 90-100. 8°. Pisa. 1880.

Refers, p. 93, to *Libellula Doris* and other insects as occurring at two horizons.

Boué, Ami. See **Audouin, V.**

Box, —. [Title of paper unknown.] *Ann. rep. roy. inst. Cornwall*, 26 : — 8°. Truro. 1844.

Notices elytra of beetles in a layer of sand with vegetable matter beneath a marsh on Millenbreath beach, Cornwall. Cf. *Ussher, Geol. mag.*, (2), 6 : 251. 8°. London. 1879.

Bradley, Frank Howe. Geology of Grundy county. *Geol. surv. Ill.*, 4, *chapt.* 13, pp. 190-206. 8°. [Springfield.] 1870.

Contains, p. 196, a list of the carboniferous insects of Mazon creek.

Bradley, F. H. Geology of Vermilion county. *Geol. surv. Ill.*, 4, *chapt.* 16, pp. 241-265. 8°. [Springfield.] 1870.

Refers, p. 253, to a species of *Miamia* from the carboniferous rocks near Georgetown.

Brauer, F. See also **Fritsch, A.**, and **Hagen, H. A.**

Brodie, P. B. Contributions to the geology of Gloucestershire, intended chiefly for the use of students. *Geologist*, [1] : 41-48, 81-88, 227-233, 289-291, 369-377. 8°. London. 1858.

Insects are referred to on pp. 47, 231 and 375, mostly from the lias.

Brodie, P. B. On fossil Arachnida, including spiders and scorpions. 16°. Warwick. 1882. pp. 8.

A general account of what is known of fossil spiders, read before the Warwickshire naturalists' field club in March, 1882.

Brongniart, Charles [J. E.] Sur la découverte d'un orthoptère cœur (*supra*). *Bull. hebdom. assoc. sc. France*, 22 : 172-173. 8°. Paris. 1878.

Brongniart, C. J. E. Note sur les tufs quaternaires de Bernouville près Gisors (Eure). 8°. Paris. 1880. pp. 3. *Bull. soc. géol. France*, (3), 8 : 418-420. 8°. Paris. 1880.

Records finding the larva of *Stratiomys*, p. 2 (419).

Brongniart, C. J. E. Recherches pour servir à l'histoire des insectes fossiles. Les hyménoptères fossiles. Fasc. 1. 8°. Paris. 1881. pp. 22.

Forms an Annexe au *Species des hyménoptères d'Europe* par M. Ed. André. The single livraison published contains introductory remarks on the rôle of insects in the world, and the mode of their preservation in a fossil state, followed by a list of the paleozoic, triassic and liassic insects.

Bruckmann, A. E. Flora oeningensis fossilis. Die oeninger steinbrüche, das sammeln in denselben und die bis jetzt dort gefundenen pflanzenreste. *Fahresb. ver. watek. naturk. Württemb.*, 6 : 215-238. 8°. Stuttgart. 1850.

The introductory part, pp. 215-225, gives an account of the different beds of the Oening quarries and the animals as well

as plants characteristic of each. Insects are mentioned on pp. 217 and 222. The appendix, *ib.* 8: 252-254 (1852), refers only to plants.

Brückmann, Franciscus Ernestus. De fabulosissimae originis lapide, arachneolitho dicto, epistola ad virum clarissimum . . . Albertum Rittervm. 4^o. Wolfenbüttelae. 1722. pp. 16, pl. 1.

Not seen; referred to by Kundmann.

Brückmann, F. E. Thesaurus subterraneus, ducatus Brunsvigii, id est: Braunschweig mit seinen unterirdischen schätzen und seltenheiten der natur. 4^o. Braunschweig. 1728. pp. (4), 156, pl. 25.

On pp. 100-101 under the heading: Von denen tubulis vermicularibus des closters St. Marientahl, certain tubes composed of globular pellets are referred to water-insects and figured on pl. 19.

Buckton, George Bowdler. Monograph of the British Aphides. 3 vol. 8^o. London. 1875-1881. Vol. i.: — t. p., ded., pp. 3, 193, pl. 38; — vol. ii: t. p., pp. 176, pl. 39-86; — vol. iii.: t. p., pp. 2, 142, pl. 87-114.

Vol. 3, pp. 2-4 treat of the successive appearance of insects in time, with special reference to the aphides. The author informs me that some plates of fossil aphides will be given in a future volume of this uncompleted work.

Butler, A. G. On fossil butterflies (*supra*).

A similar account appeared in *Harvard sc. gossip*, 1873: 260-261 under the title: The oldest fossil butterfly.

Capellini, Giovanni. Pesci ed insetti fossili nella formazione gessosa del Bolognese. *Gazz. dell' Emilia*, no. 141. 1869.

Not seen; quoted from Malfatti.

Capellini, G. La formazione gessosa di Castellina marittima e i suoi fossili. *Mem. accad. sc. ist. Bologna*, (3), 4: 525-603, pl. 1-9. 4^o. Bologna. 1873.

On pp. 539 and 557 catalogues *Libellula Doris* Heer (larva) from Limone, etc.

Capellini, G. Nuove ricerche sul calcare a amphisstegina strati a congeria e calcare di leitha dei Monti Livornesi. *Rend. sess. accad. sc. ist. Bologna*, 1874-75: 130-135. 8^o. Bologna. 1875.

Refers, p. 133, to the occurrence of the larvae of *Libellula* at Limone, etc.

Capellini, G. Nota sulla geologia toscana. *Rend. sess. accad. sc. ist. Bologna*, 1874-75: 22-24. 8^o. Bologna. 1875.

Refers, p. 24, to the occurrence of larvae of a *Libellula* in tertiary beds near Pane e Vino.

Capellini, G. Il calcare di leitha, il sarmatiano e gli strati a congerie nei Monti di Livorno, di Castellina marittima, di Miemo, e di Monti Catini. Considerazioni geologiche e paleontologiche. *Atti acad. lincei*, (3), *mem. classe sc. fis.*, 2: 275-291. 4^o. Roma. 1878.

Gives on p. 285 a list of six insects found in the diatomaceous schists of Gabbro, two identical with Oeningen species.

Capellini, G. Gli strati a congerie e la formazione gessosa-solfifera nella provincia di Pisa e nei dintorni di Livorno. *Atti acad. lincei*, (3), *mem. sc. fis.* 5: 375-427, pl. 1-9. 4^o. Roma. 1880.

Refers in several places to the occurrence of insects, and especially of larvae of *Libellula* in different strata and localities.

Chambers, Victor Tousey. Burrowing larvae. *Nature*, 25: 529. 4^o. London. 1882.

Compares recent and fossil "mines" of lepidopterous larvae, referring to Hagen's statement on a previous page.

Charntre, E. See **Lortel, L. et Charntre, E.**

Cordus, Valerius. Sylva, qua rerum fossilium in Germania plurimorum metallorum, lapidum et stirpium variarum notitiam lapidum brevissime persequitur. 9^o. Tiguri. 1561.

Not seen; said to contain references to fossil insects from Oeningen.

Croizet (Pabbé). Quelques observations sur le Puy de Corent. *Ann. acad. Clerm. Ferr.*, 11: 135-155. 8^o. Clermond Ferrand. 1838.

Not seen; said to refer to the caddis fly cases of the industrial limestone of Auvergne.

Dallas, W. S. See **Müller, F.**

Dawson, George Mercer. Sketch of the geology of British Columbia. 8^o. London. 1881. pp. 19. *Geol. mag.*, (2), 8: 156-162, 214-227. 8^o. London. 1881.

Refers, p. 6 (162), to the general conclusions furnished by the tertiary insects of the interior plateau.

Dawson, J. W. On some remains of palæozoic insects (*supra*).

ABSTRACT: On insects from the carboniferous and devonian formations. *Geol. mag.*, 4: 374. 8^o. London. 1867.

Taken from the *Montreal Gazette* of May 1, 1867. An abstract also appears in *Amer. Journ. sc.*, (2), 44: 116. 8^o. New Haven. 1867.

Dawson, J. W. The chain of life in geological time; a sketch of the origin and succession of animals and plants. 16^o. London. [1880.] pp. 16, 272, *illustr.*

In the chapter on the first air breathers a considerable number of insects are mentioned and figured, pp. 139-151, figs. 123, 126-132, including for the first time *Prodryas*, a fossil butterfly from Colorado.

Dawson, J. W. The oldest-known insects. *Nature*, 24: 483-484. 4^o. London. 1881.

Shows the devonian age of the cordaite shales of New Brunswick, in which the oldest known insects occur, from stratigraphical and botanical evidence, in opposition to the assumption of Hagen.

Debray, Henri. Tourbières du littoral flamand et du département de la Somme. *Bull. soc. géol. France*, (3), 2: 46-49. 8^o. Paris. 1874.

Records the discovery, p. 48, of brilliant elytra of *Donacia* in peat along the Flemish coast.

Debray, H. Communications diverses au sujet des tourbières: castors; ossements de baleines; élytres de donacies; squelette humain des tourbières d'Aveluy; cranes; bois. *Ann. soc. géol. nord*, 5: 125-135. 8^o. Lille. 1878.

Under the heading *Insectes*, refers to the discovery in peat of *Ardres* of *Donacia sericea*, determined by J. Barrois, pp. 127-128. Separately issued, without change of pagination but with a title-page. 8^o. Lille. 1878.

Debray, L. Étude géologique et archéologique de quelques tourbières du littoral flamand et du département de la Somme. *Mém. soc. sc. agric. arts Lille*, (3), 11: 433-487, pl. 13. 8^o. Lille. 1873.

Contains a brief paragraph, p. 451, on the few beetles found.

Deichmüller, J. V. Fossile insecten aus dem diatomeenschiefer von Kutschlin bei Bilin, Böhmen. 4^o. Halle. 1881. pp. 39, pl. *Nova acta Leop.-Carol.-deutsch. akad. naturf.*, 42: 293-331, tab. 21. 4^o. Halle. 1881.

Describes and figures thirteen species, all but one of them new, and mostly Coleoptera. They indicate a warmer climate at the time.

Demole, Isaac. See **Heer, O.**

Dohrn, Carl August. Zur literatur über fossile

insecten. *Stett. entom. zeit.*, 42: 388-389. 8°. Stettin. 1881.

Gives a résumé of Hagen's criticism of Scudder's Devonian insects.

Douglas, J. W. et al. A species of stylopidae fossil in amber. *Entom. monthl. mag.*, 14: 18-19. 8°. London. 1877.

A notice by the editors of the magazine of Menge's Triana.

Dupont, Édouard Sur la découverte d'ossements d'iguanodon, de poissons et de végétaux dans la fosse Sainte-Barbe du charbonnage de Bernissart. *Bull. acad. sc. Belg.*, (2), 46: 387-408. 8°. Bruxelles. 1878.

Mentions, p. 395, the occurrence of insect larvae in this wealdian deposit.

Eaton, A. E. The oldest fossil insects. *Nature*, 23: 507. 4°. London. 1881.

Reply to Scudder's criticisms (in *Devonian insects*) of remarks on fossil Ephemeroidea in Eaton's *Monograph*.

Eaton, A. E. See **Scudder, S. H.**

Erichson, W. F. See **Maravigna, C.**

Fliche, P. Sur les lignites quaternaires (*supra*).

The insects were determined by Matthieu of the Ecole forestière.

Francius, Johannis. Prodrömus arachnolithographiae. *Misc. cur. acad. nat. cur.*, (2), 5: 462-464. 4°. Norimbergae. 1687.

Refers only to the use to which *lapides aranearum* are put in medicine.

Fritsch, A. Fossile anthropoden aus der steinkohlen und kreideformation Böhmens, 4°. Wien. 1882. pp. 7, pl. 2. Mojs. u. Neum., *Beitr. paläont. österr.-ung.*, 2: 1-7, taf. 1-2. 4°. Wien. 1882.

Describes and figures a carboniferous ephemerid, *Palingenia Feistmanteli*, and three beetles, mines of a *Tinea*, eggs of a saw fly, and cases of a phryganid from the cretaceous beds of Bohemia; a résumé of the very few known cretaceous insects is added from Goss. Brauer and Fritsch both compared the may fly, p. 3, to the living *Palingeota longicauda*.

Geikie, Archibald. A recent find in British palaeontology. *Nature*, 25: 1-3. 4°. London. 1881.

Contains an announcement of the discovery of remarkably perfect scorpions in the coal measures of Scotland, with some results of their study by Mr. B. N. Peach. An abstract entitled *New carboniferous fossils in Scotland, extracted from the London Times* will be found in *Amer. nat.*, 15: 1021-1022. 8°. Philadelphia. 1881. See also *Primeval Scottish scorpions*.

Germar, E. F. See **Assmann, A.**

Goebel, Severinus. De succino libr. II. quorum prior theologicus, posterior de succini origine agit. 8°. Frankfurt. 1558.

Not seen; Dr. Hagen informs me that it contains references to insects in amber, among the earliest known.

Goepfert, H. R. Sull' ambra di Sicilia e sugli oggetti in essa rinvenuti. 4°. Roma. 1879. pp. 9. figs. *Mem. acad. linc.*, (3), *mem. sc. fis.*, 3: 56-62. 4°. Roma. 1879.

On p. 4(58), he reviews the literature of the insects of Sicilian amber.

Goldenberg, F. Beitrag zur insectenfauna der kohlenformation von Saarbrücken. *Zeitschr. ges. Naturw.*, (3), 6: 184-187, figs. 8°. Berlin. 1881.

Describes *Anthracoblattina Scudderi*.

Goss, H. See **Scudder, S. H.**

Haeckel, Ernst (Heinrich). Allgemeine entwickelungsgeschichte der organismen. Kritische grundzüge der mechanischen wissenschaft von den entstehenden formen der organismen, begründet durch die descendenz-theorie. Also entitled: *Generelle morphologie der organismen. Allgemeine grundzüge der organischen formen-wissenschaft, mechanisch begründet durch die von Charles Darwin reformirte descendenz-theorie.* Zweiter band. 8°. Berlin. 1866. pp. 160, 462, pl. 8.

In the introduction insects are treated on pp. 94-102, and the views entertained of the primeval forms of the different groups supported in part by paleontological evidence.

Haeckel, E. (H.) *Natürliche schöpfungsgeschichte, Gemeinverständliche wissenschaftliche vorträge über die entwickelungslehre im allgemeinen und diejenige von Darwin, Goethe und Lamarck im besonderen.* Vierte verbesserte auflage. 8°. Berlin. 1873. pp. 46, 688, pl. (1), 15.

TRANSLATION: *The history of creation: or the development of the earth and its inhabitants by the action of natural causes.* A popular exposition of the doctrine of evolution in general, and of that of Darwin, Goethe, and Lamarck in particular. The translation revised by E. Ray Lankester. 2 vols. 12°. New York. 1876. — i, pp. 20, 374, pl. (1), 1-3; ii, pp. 8, 408, pl. 4-15.

Insects are treated on pp. 490-501 (transl., 2: 178-191) and their pedigrees considered, partly from geological considerations.

Haesbert, M. J. De conchylio et ape petrifactis (*supra*).

Reports a fossil bee in the collection of Scheidius, figured tab. 2, fig. 4.

Hagen, H. A. Ueber . . . *Heterophlebia dislocata* (*supra*).

Dr. Hagen informs me that the most important vein is given in the wrong place by the lithographer.

Hagen, H. A. Notes on *Tarsophlebia Westwoodii* Giebel, a fossil dragon fly. *Entom. monthl. mag.*, 1: 160-161. 8°. London. 1864.

Hagen, H. A. Synopsis of the *Psocina* without ocelli. *Entom. monthl. mag.*, ii: 121-124. 8°. London. 1865.

Atropos resinata from copal is described on p. 121.

Hagen, H. A. The oldest fossil insects. *Nature*, 24: 356-357. 4°. London. 1881.

Is chiefly concerned with the determination of a species of *Pecopteris* found in the Devonian insect beds, and the conclusion is drawn that "those oldest insects will have to be considered as belonging to the lower carboniferous."

Hagen, H. A. Fossil insects of the *Dacota* group. *Nature*, 25: 265-266. 4°. London. 1882.

A brief note recording the discovery of galls and mines in fossil leaves from Kansas and Nebraska.

Hagen, H. A. On amber *Psocina* from Prussia. *Psyche*, 3: 279. 4°. Cambridge. 1882.

Concludes from them that before tertiary times a great development of genera and species had occurred.

Hagen, H. A. See **Dohrn, C. A.**; **Krantz, A.**; and **Scudder, S. H.**

Hartmann, P. J. *Succincta succini prussici historia et demonstratio* (*supra*).

An abstract will be found in *Acta erud.*, 1700: 332-336. 4°. Lipsiae. 1700.

van Hasselt, A. W. M. See **Wyenbergh, H.**

Haughton, Samuel. Description of a fossil spider, *Architarbus subovalis*, from the middle coal measures, Burnley, Lancaster. *Journ. geol. soc. Ireland, n.s.*, 4: 222-223, figs. 8°. Dublin, etc. 1877.

Gives a figure, without description, both of the original and of the new and better specimen.

Heer, O. Fossile flora der Bären insel. 4°. Stockholm. 1871. pp. 51, pl. 15. *Kongl. svensk vetensk. akad. handl.*, 9, no. 5.

In a section on the equivalents of the Bear island beds in America, he refers the Devonian of St. John to the lower carboniferous and mentions four species of insects described from there by Scudder.

Heer, O. New orthopterous insect in the coal measures of Scotland. *Geol. mag.*, (2), 3: 520. 8°. London. 1876.

Notes some omissions of fossil cockroaches in the list of carboniferous insects attached to Woodward's paper with a similar title.

Heer, O. See also de La Harpe, P.

Heller. See Berendt, G. C.

Henkel, Johannes Fridericus. De succino fossilium in Saxonia electorali. *Acta phys. med. acad. Leop.-Carol.*, 4: 313-316. 4°. Norimbergae. 1737.

Contains reference to insect inclusions on p. 316. Also said to be given in his *Kleine miner. chym. stud.*, p. 539. 8°. Dresden und Leipzig. 1744.

Henwood, William Jory. Observations on the detrital tin-ore of Cornwall. *Journ. roy. inst. Cornwall*, 4: 191-254. 8°. Truro. 1873.

Refers to the discovery of elytra of beetles in alluvium at Perranwell, Cornwall.

TRANSLATION: Remarques sur le mineral d'étain détritique du Cornwall. Traduction, par extraits, par Zeiller. *Ann. des mines*, (7), 6: 114-130. 8°. Paris. 1874.

The translation omits all references to animal remains.

von Heyden, C. See von Meyer, C. E. H.

von Heyden, C. und L. See Krantz, A.

von Heyden, L. See Capellini, G.

Heywood, James. See Heer, O.

Hislop, S. See Murray, A.

Hollingworth, George H. Description of a peat-bed interstratified with the boulder drift at Oldham. *Quart. Journ. geol. soc. Lond.*, 37: 713-714, fig. 8°. London. 1881.

Reports beetles in the main bed of peat, p. 713.

Ittiologia veronese del museo Bozziano ora annesso a quello del conte Giovambattista Gazola e di altri gabinetti di fossili veronesi con la versione latina. f°. Verona. 1796. pp. 52, 323, pl. 76.

Part I. § 27, p. 31, records in the Boza museum, "duo Asili, Cimex unus Americanus, omnes inde effusi."

Jobert (ainé). See Croizet et Jobert.

Jokély, Johann. Die tertiären süßwassergebilde des Egerlandes und der Falkenauer gegend in Böhmen. *Jahrb. k.k. geol. reichsanst.*, 8: 466-515. 8°. Wien. 1857.

Remains of insects are recorded from Eger (p. 477), Krotensee (p. 482), Grasseth (p. 502).

Kawall, H. Der bernsteinsee in Kurland. *Correspondenzbl. naturf. ver. Riga*, 6: 69-71. 8°. Riga. 1853.

Not seen; said to contain something on amber insects.

Kerr, Washington Carothers. Report of the geological survey of North Carolina. Vol. i. Physical geography, résumé, economical geology. 1875. 8°. Raleigh. 1875. pp. 18, 325, 120, map, pl. (1), 8.

Reports on p. 157 the occurrence of "numerous shining wing-covers of beetles" in peat near Morganton, N. C.

Kollar, Vincent. See Reuss, A. E.

Krause, Ernst. See Scudder, S. H.

Kundmann, Johann Christian. Rariora naturae et artis, item in re medica, oder Seltenheiten der natur und kunst des kundmannischen naturalien-cabinets, wie auch in der arzneiwissenschaft. f°. Breslau und Leipzig. 1737. 2 t. p., ff. (8), col. 1312 (=ff. 328); ff. (17), portr., figs., pl. 17.

Contains, col. 229-236, tab. 12, figs. 13-14, art. 28: Vom einem geglaubten und wahrea spinnen-steinen, in which spiders from the jurassic rocks of Eichstädt are figured.

de La Harpe, Philippe. Sur un gisement de tourbe glaciaire trouvé à Lausanne. *Bull. soc. vaud. sc. nat.*, 14: 456-458. 8°. Lausanne. 1876.

Contains a letter from Heer who examined the organic remains in the peat and found the elytra of a *Donacia*.

Lankester, Edwin Ray. *Limulus* an arachnid. *Quart. Journ. micr. sc.*, 21: 504-548, 609-649, pl. 28-29, figs. 8°. London. 1881.

An extended argument to show, mainly on anatomical and morphological grounds, that the king crabs are not Crustacea but Arachnida. With the Trilobita and Eurypterina he considers the Xiphosura as the precursors of the higher Arachnida.

Lankester, E. R. Studies in *Apus*, *Limulus* and *Scorpio*. 8°. London. 1882.

Not seen; contains the same as the preceding.

Lankester, E. R. See Haeckel, E. (H.)

Lecoq, Henri. Les époques géologiques de l'Auvergne. 8°. 5 vol. Paris. 1867.

Not seen; according to Oustalet, he discusses *Indusia* in vol. 2, pp. 335 and 374.

Lochnerus, Johannes Henricus et Michael Fridericus. Rariora msei besleriani quae olim Basilius & Michael Ropertvs Besleri collegerunt aeneisque tabvllis ad vivum incisa evlgarvnt: nunc commentariolo illustrata a Johanne Henrico Lochnero, vt virtvti toy makaritoy exstaret monvmentvm, denvo lvcii pvblycae commisit & laudationem ejvs fvneprem adjectit maestissimvs parens Michael Fridericvs Lochnervs. f°. N. P. 1716. pp. (22), 112, pl. 40, portr. 2.

According to Kundmann, contains references to fossil insects on pp. 34, 100.

Loew, H. Beschreibung einiger neuen Tipularia terricola. *Linn. entom.*, 5: 385-406, tab. 2. 8°. Berlin. 1851.

Treats, pp. 400-401, pl. 2, figs. 16-23, of the genus *Toxorhina* and figures three amber species.

Loew, H. Monographs of the Diptera of North America. Part 2. On the North American Dolichopodidae. 8°. Washington. 1864. pp. 11, 360, pl. 3-7.

A paragraph in his Supplement, pp. 321-322, points out that this family of American flies "shows the most remarkable analogy to the remains of the fossil fauna of the same family preserved in amber."

Lubbock, J. Monograph of the Collembola and Thysanura. 8°. London. 1873. pp. 10, 276, pl. 78.

His second chapter, miscalled Chapter III. is On the importance of the Collembola and Thysanura in relation to the evolution of the Insecta, pp. 40-54, and takes into consideration the facts then known of the geological history of the latter; it will be found suggestive.

McLachlan, R. Insects. *Encycl. brit.*, ed. 9, vol. 13, pp. 141-154. 4°. Edinburgh [and Boston]. 1881.

Contains a paragraph, p. 141, on the Antiquity of insects.

McLachlan, R. See **Woodward, H.**

Malfatti, G. Bibliografia degli insetti fossili italiani finora conosciuti. 8°. Milano. 1881. t. p., pp. 12. *Atti soc. ital. sc. nat.*, 24: — 8°. Milano. 1881.

A valuable résumé of what has been published concerning the fossil insects of Italy, arranged by deposits. None are older than the tertiaries. Mention is made of three or four specimens in Italian museums, not before published.

Maravigna, C. Insectes dans l'ambre (*supra*).

Reviewed by Erichson with original notes in *Ber. wiss. Leist. entom.*, 1838: 29. 8°. Berlin. 1840. *Arch. f. naturg.*, 5, ii, 309. 8°. Berlin. 1839. [1840.]

Maravigna, C. See **Rondani, C.**

Martialis, Marcus Valerius. Epigrammata. Liber 4, section 32.

Et latet et lucet Phaethontide condita gutta,
Ut videatur apis nectare clausa suo.
Dignum tantorum pretium tulit illa laborum;
Credibile est ipsam sic voluisse mori.

Some writers have thought that Martial here referred to amber-
inclusiona.

Massalongo, A. B. P. Sopra un nuovo genere di pandanee fossili della provincia veronese. 8°. Verona. 1853. pp. 16 (7, [201-207]), tav. 4. *Mem. accad. agric. Ver.*, 29: 187-207, pl. 1-4. 8°. Verona. 1854.

Refers on p. 12 (196) to the occurrence of Neuroptera, similar in form and size to the living Libellula, with "alcune piccole api" at Monte Bolca. The only copy I have seen is that of the separate paper, in which pp. 17-end are replaced by those of the academy's memoir.

Massalongo, A. B. P. Compendium faunae et florae fossilis bolcensis (*supra*).

Not mentioned in Sordello's *Bibl. paleont. veget. ital.* (1881).

Matheron, Philippe. Compte-rendu de la visite du terrain à gypse à Aix et du volcan de Beaulieu. *Bull. soc. géol. France*, 13: 451-465. 8°. Paris. 1842.

The insects of the beds at Aix are referred to in general terms on p. 454 and their relative position pointed out.

Matheron, P. Recherches comparatives sur les dépôts fluviolacustres tertiaires des environs de Montpellier, de l'Aude et de la Provence. 8°. Marseille. 1862. pp. 108 (?). *Mém. soc. émul. Marseille*, 1: 173-280. 8°. Marseille. 1861.

Not seen; gives, according to Oustalet, some notice of Aix insects.

Matthieu. See **Fliche, P.**

Menge, A. See **Douglas, J. W.** et al.

Millar, George Henry, editor. A new, complete, and universal body or system of natural history; being a grand, accurate and extensive display of animated nature . . . written by a society of gentlemen. f°. London. N. D.

Not seen; according to Dr. Hagen the work mentions, p. 421, the presence of insects in amber.

Mourlon, M. Géologie de la Belgique (*supra*). 2 vol. 8°. Bruxelles. 1880-1881. i (1880), pp. 4, 317; — ii (1881), pp. 4, 16, 392.

Refers in three brief paragraphs (i. 125, 144) to the insects reported from the coal by van Beneden and de Borre, and from the oolite by the latter; the carboniferous species are also catalogued (ii. 57) as well as larvae of insects from the wealdeo of Hainaut (ii. 82).

Müller, Fritz. Facts and arguments for Darwin; with additions by the author; translated by W. S. Dallas. 16°. London. 1869. pp. (8), 144.

Argues in favor of the late acquisition of "complete" metamorphoses in insects partly from paleontological data, in a footnote to pp. 119-121; it does not occur in the original, entitled *Für Darwin*.

Münster, G. Nachtrag zu dem Aufsatz des professor Germar in theil 4 heft 2 dieser zeitschrift über die versteinerungen von Solnhofen. *Deutschl. geogn. geol. dargest.*, 5: 578-581. 16°. Weimar. 1828.

Gives a list of the fossils known to him, among which, on p. 579, occurs 10 arten insecten darunter 2 arten libellen. Germar's paper has nothing on insects.

Münster, Sebastian. Cosmographiae uniuersalis Lib. VI. in quibus, iuxta certioris fidei scriptorum traditionem describuntur, Omnium habitabilis orbis partium situs, propriaeque dotes. Regionum Topographicae effigies. Terrae ingenia, quibus sit ut tam differentes & uarias specie res, & animatas & inanimatas, ferat. Animalium perigrinorum naturae & picturae. Nobiliorum ciuitatum icones & descriptiones. Regnorum initia, incrementa & translationes. Omnium gentium mores, leges, religio, res gestae, mutationes: Item regum & principum genealogiae. Autore Sebast. Munstero. f°. Basileae. 1554. ff. (12), pl. (14), pp. 1163, + 1 folding plate not paged.

Lib. III contains, pp. 783-784, a section De succino quod in Prusia legitur, in which, p. 784, amber is said to contain "bestiolae, ut muscae, culices, apes, formicae, lacertae, &c."

The German edition of 1598 contains this reference on pp. 1145-1146, and that of 1628 (?) on p. 1297.

Dr. Hagen has called my attention to this reference as perhaps the earliest mention of insects in amber. The same reference is doubtless contained in the latin edition of 1550, perhaps in the German edition of 1544. See Harv. Univ. Bull., ii: 285.

Noeggerath, Jacob. Die insecten der steinkohlenflora. *Frankf. convers.-blatt*, 1854: 215-216, 223. 4°. Frankfurt a. M. 1854.

Kölnische zeitung, 1854.

Not seen; quoted from Hagen's Bibliography.

Oken, Lorenz. Einige wörter über den Oeningensteinbruch. Oken's *Isis*, 1840: 282-283. 4°. Leipzig. 1840.

Refers to its fossil insects and particularly the larvae of Odonata.

von Osten Sacken, C. R. R. New genera and species of North American Tipulidae with short palpi, with an attempt at a new classification of the tribe. *Proc. acad. nat. sc. Philad.*, 1859: 197-256, pl. 3-4. 8°. Philadelphia. 1859.

Refers, pp. 200, 221, 251, to the relationship of Protoplasia, Elephantomia and Rhamphidia to the species of the Baltic amber, and the identity of Toxorhina and Limnobiahyochus.

von Osten Sacken, C. R. R. Appendix to the paper entitled New genera and species of North American Tipulidae with short palpi, &c. *Proc. acad. nat. sc. Philad.*, 1860: 15-17. 8°. Philadelphia. 1860.

Brief remarks on the amber genera Toxorhina and Macrochile, p. 17.

von Osten Sacken, C. R. R. Monographs of the Diptera of North America. Part 4. On the North American Tipulidae. 8°. Washington. 1869. pp. 11, 345, pl. 4.

Compares the American fauna to that of the European amber fauna, pp. 37-38; devotes a couple of paragraphs, pp. 107-109, 112-114, to show that the amber species referred by Loew to Toxorhina belong to Elephantomia; and another to the Eriocerae of the amber, pp. 251-252.

von Osten Sacken, C. R. R. Ueber einige merkwürdigen fälle der geographischen verbreitung von Tipuliden. *Entom. nachr.*, 6: 67-68. 8°. Putbus. 1880.

Abstract of a paper published in the Tageblatt of the 52er Versammlung deutscher naturforscher, pp. 232-233. Contains a few words about the Tipulidae of amber as compared with those living in N. America.

Packard, A. S. Is *Limulus* an arachnid? *Amer. nat.*, 16: 287-292. 8°. Philadelphia. 1882.

In answer to Lankester, attempts to prove that *Limulus* is a crustacean, chiefly from the discovery by Willemoes of a nauplius-stage in the development of an East Indian species; a discovery which he afterwards acknowledges to be false, p. 436. See also Moseley in *Nature*, 25: 582.

Peach, Benjamin N. See **Geikie, A.**

Pike, J. W. Preservation of fossil insects and plants on Mazon Creek. 8°. Salem. 1881. pp. 5. *Proc. Amer. assoc. adv. sc.*, 29: 520-524. 8°. Salem. 1881.

A sketch of the history of the formations at Mazon Creek, with a mention in most general terms of the animals and plants.

Planchon, Gustave. Étude des tufs de Montpellier au point de vue géologique et paléontologique. 4°. [Montpellier.] 1864.

Not seen; according to Oustalet mention is made of *Indusia*.

Ponzi, Giuseppe. I fossile del Monte Vaticano. 4°. Roma. 1876. pp. 37, tav. 3. *Atti. r. accad. linc.*, (2), 3: 925-959, tav. 1-3. 4°. Roma. 1876.

Under the name of *Hylobium tortonianum* describes, p. 10 (932), and figures, pl. 1, fig. 9, borings in fossil pine from pliocene deposits.

Primaeval Scottish scorpions. *The scotsman*, no. 11960, p. 3. f°. Edinburgh. 1881.

An anonymous communication, of more than a column in length, based on Geikie's article in *Nature*, with special reference to Mr. Peach's discoveries.

Procaccini-Ricci, V. Lettera prima . . . sull'anatomia delle filliti sinigalliesi. *Nuov. ann. sc. nat.*, 1: 190-213, pl. 4-5. 8°. Bologna. 1838.

Refers, p. 210, to a fossil insect which is figured with a leaf, pl. 5, fig. 1; no details are given, and the figure is unrecognizable.

Reuss, A. E. Geognostische skizzen aus Böhmen. 1er theil: Die umgebungen von Teplitz und Bilin in beziehung auf ihre geognostischen verhältnisse; ein beitrage zur physiographie des böhmischen mittelgebirges; mit 1 karte und 9 tafeln. 8°. Leitmeritz. 1840.

Not seen; according to Deichmüller this work contains reference on p. 143 to the occurrence of fossil insects at Bilin.

Reuss, A. E. Die geognostischen verhältnisse des Egerer bezirkes und des Ascher gebietes in Böhmen. *Abhandl. k.k. geol. reichsanst.*, 1: 1-72, map. 4°. Wien. 1852.

Mentions, p. 58, the occurrence of impressions of Coleoptera and Diptera, generally very indistinct, in the cyprismergel of Krottensee. An exception is noted in a single Dipteron, which is figured and which Kollar places near *Penthetria*.

Reuss, A. E. Die gegend zwischen Kommatou, Saaz, Raudnitz und Tetschen. *Löschn., Beitr. balneol.*, 2. 8°. Prag. 1847.

Not seen; according to Deichmüller, this article contains some reference on p. 46 to the occurrence of fossil insects in certain Bohemian localities.

Reuss, A. E., und von Meyer, C. E. H. Die tertiären süßwassergebilde des nördlichen Böhmen's und ihre fossilen thierreste. *Palaeontogr.*, 2: 1-73, pl. 1-12. 4°. Cassel. 1849-51.

Contains Geognostische skizze der tertiären süßwasserschichten des nördlichen Böhmen's, pp. 1-15, by Reuss alone, in which are recorded the discovery of Coleoptera at Kutschchen (p. 6), and of insects, principally Coleoptera, at Luschitz (p. 7).

Richter, Georg Gottfried. *Gazophylacium mineralium oder Mineralienkabinet.* 8°. Leipzig. 1719.

Not seen; said to contain something on Oeningen insects.

de Rouville, Paul. Géologie des environs de Montpellier. 1855.

Not seen; gives, according to Oustalet, some notice of the remains in the industrial limestone.

van Roy, C. W. Ansichten über entstehung und vorkommen des bernsteins, so wie praktische mittheilungen über den werth und die behandlung desselben als handelswaare. 8°. Danzig. 1840.

Not seen.

S. Fossil coleoptera. *Hardw. sc. gossip*, 1867: 238. 8°. London. 1867.

Describes finding four Coleoptera in a stratum of debituminised peat in a freestone quarry near Fifeness.

Samouelle, George. See **Murchison, R. I.**

Scheuchzer, J. J. Meteorologia et oryctographia helvetica; oder Beschreibung der luft-geschichten, steinen, metallen, und anderen mineralien des Schweitzerlands, absonderlich auch der uberblieb-selen der sündfluth. Ist der dritte oder eigentlich der sechste theil der Natur-geschichten des Schweitzerlands. 4°. Zürich. 1718. t. p., ff. 7, pp. 336, pl. (19).

Insecta diluviana on p. 336 is a paragraph saying that while the author is acquainted with fossil insects he has seen none from Switzerland; quotes Langius.

Scheuchzer, J. J. Physique sacrée, ou histoire naturelle de la bible. Traduite du latin; enrichie de figures en taille douce, gravées par les soins de Jean-André Pffeffel. 8 vol. f°. Amsterdam. 1732-1737.

Vol. i, tab. 53, figs. 23-25, p. 68, gives figures of a beetle and odonate larva from Oeningen, and an odonate from Verona, which Heer afterwards determines. Original edition not seen.

Scudder, S. H. The devonian insects of New Brunswick (*supra*).

Extended abstract (by H. A. Hagen) in *Zööl. jahresb.*, 1880, ii: 188-192. 8°. Leipzig. 1881.

TRANSLATION: Die devonischen insekten von Neu-Braunschweig und ihre beziehungen zu den spätern und noch lebenden insekten. *Kosmos*, 5: 217-223. 8°. Stuttgart. 1881.

A translation of the general conclusions, with an abstract of the other portions, and comments by the editor, Ernst Krause.

Scudder, S. H. The tertiary lake basin of Florissant (*supra*).

EXTRACT: Insects of the amyzon shales of Colorado. *Amer. nat.*, 16: 159-160. 8°. Philadelphia. 1882.

Quotes some of the general results obtained

REPRINT: with same title as original. *Rep. U. S. geol. geogr. surv. terr.*, 1878: 271-293, map. 8°. Washington. 1882.

Contains considerable additions, especially in the Arachnida and Neuroptera, where comparisons are instituted with European and other American fossils.

Scudder, S. H. [Minor notices of fossil insects.] *Psyche*, 3: 277-279. 4°. Cambridge. 1882.

Exhibition at meetings of the Cambridge entomological club of a cast of the first paleozoic insect ever found (p. 277), and of illustrations of the tertiary insects of North America (p. 278); as well as remarks on fossil species of Termes (p. 278); on some carboniferous insects, and on tertiary spiders from Florissant (p. 279).

Scudder, S. H. Archipolypoda, a subordinal type of spined myriapoda from the carboniferous formation. *Mem. Bost. soc. nat. hist.*, 3: 143-182, pl. 10-13, 4°. Boston. 1882.

Discusses their relation to modern diplopods and monographs the known species, adding several new ones; twelve species are recognized, divided into four genera. The first plate contains a restoration of the largest species with other animals and plants of Mazon Creek.

Scudder, S. H. A new carboniferous cockroach from Mazon Creek, Illinois. *Proc. Bost. soc. nat. hist.*, 21: — 8°. Boston. 1882.

Describes *Etblattina mazona*, the neuration of the wings of the two sides differing.

Smith, Frederick. See **Zaddach, E. G.**

Tournal. Tertiary of Arnisson.

Is said to have published some reference to fossil insects in a work on the above subject. I have been unable to verify it.

Troost, G. See **Ballenstedt, J. G. J.**

Turpin, Pierre Jean François. Note sur le terrain qui contient le tripoli de Bilin, en Bohême, par M. Élie de Beaumont; suivie de l'examen des débris organiques que renferme une des couches de ce terrain, par M. Turpin. *Comptes rendus acad. sc.*, 7: 501-503. 4°. Paris. 1838.

The Note de M. Turpin occupies pp. 502-503. Mention is made, p. 502, of the leg of an insect "très probablement d'un *Acarus*," as found in the earth.

Walchner, Friedrich August. Darstellung der geologischen verhältnisse des süßwasser-mergels von Oeningen im badischen seekreis und seiner fossilen flora und fauna. 8°. Karlsruhe. 1850.

Separately printed from his Handbuch der geognosie zum gebrauche bei seinen vorlesungen, und zum selbststudium, mit besonderer berücksichtigung der geognostischen verhältnisse des grossherzogthum Baden. 2° aufl. 8°. Karlsruhe. 1847-1851. (pp. 956 *et seq.*) Neither seen.

Walchner, F. A. Darstellung der geologischen verhältnisse des mainzer tertiärbeckens und seiner fossilen fauna und flora. 8°. Karlsruhe. 1850. pp. 75

Contains, p. 57, a list of insects referred to twelve genera, only two of the species receiving names, — *Phryganea mombachiana* and *P. Blumi*.

Separately printed from his Handbuch der geognosie, *etc.*, as above. 2° aufl. 8°. Karlsruhe. 1847-51.

Walckenaer, Charles Athanase, baron et Gervais, Paul. Histoire naturelle des insectes. Aptères. 4 vol. and atlas of 52 plates. 8°. Paris. 1837-1847. Tom. 3 (1844), 2 t. p., pp. 8, 476; — tom. 4 (1847), 2 t. p., pp. 16, 623.

References to fossils, all at second hand, will be found in vol. 3, pp. 6, 70-72, 84, 128, 288, 449; and vol. 4, pp. 329-330, 345; 359, 360.

Waterhouse, C. O. See **Owen, R.**

Westwood, J. O. [Exhibition of a fossil beetle from Stonesfield.] *Trans. ent. soc. Lond.*, 4, *journal of proc.*, 40. 8°. London. 1841.

Regards the elytra figured by Buckland (pl. 46'', figs. 4-9) as prionideous, not buprestideous.

Weyenbergh, H. Sur les chenilles fossiles. *Pet. nouv. entom.*, no. 202, p. 253. 4°. Paris. 1878.

A note calling attention to the caterpillar of the jurassic *Sphinx Suelleni* previously described by him.

* * * Ami Boné is said to have been the first (*Journ. geol.*, 3: 105) to have referred to the insects of Radoboj, but I have been unable to verify the reference; and John Ray is stated to have made some references to fossil insects on pp. 78 and 92 of his *Historia insectorum*; but I have examined the work for such references unsuccessfully.

* * * Among the papers on fossil insects known to me to be shortly forthcoming are the following: By Dr. H. A. Hagen upon the *Psocina* of the amber, with a folding plate, in the *Stett. entom. zeit.*; by Mr. B. N. Peach, an illustrated memoir on the recently-discovered scorpions of the carboniferous rocks of Scotland, in the *Trans. royal. soc. Edinb.*; and by myself illustrated papers on the carboniferous hexapods of Great Britain, and on two new types of carboniferous myriapods from Mazon Creek, in the *Memoirs Bost. soc. nat. hist.*; an extract from the last, discussing the affinities of *Palaeocampa*, will appear in the *Amer. journ. sc.*

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NOTES ON THE HISTORICAL HYDROGRAPHY OF THE
HANDKERCHIEF SHOAL IN THE BAHAMAS.

By WILLIAM H. TILLINGHAST.

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12. A LIST OF THE PUBLICATIONS of Harvard University and its Officers, 1870-1880.
- *13. SAMUEL H. SCUDDER. A Bibliography of Fossil Insects.
14. WILLIAM H. TILLINGHAST. Notes on the Historical Hydrography of the Handkerchief Shoal in the Bahamas.

NOTES ON THE HISTORICAL HYDROGRAPHY OF THE HANDKERCHIEF SHOAL IN THE BAHAMAS.

[TAKEN MAINLY FROM MAPS IN THE HARVARD COLLEGE LIBRARY.]

By WM. H. TILLINGHAST.

* * * SOUTHEAST of Turks Islands, the easternmost group of the Bahamas, lie the three shoals known as *Mouchoir Carré* or *Square Handkerchief*, *Silver Bank*, and *Navidad*. Some maps place islands in the first two banks, although they now consist only of sand and wasting coral reefs. It was thought that an examination of old maps might reveal a change in the condition of the shoals since the time of the discovery of the Bahamas, which might be of importance in the disputed question of the Landfall of Columbus. With this object the maps and charts in Harvard College Library have been looked over. While the results are not such as were anticipated, since they throw more light on the condition of the cartography of the West Indies than on any physical changes among the Islands, it is hoped they are, nevertheless, of some value. The arrangement is chronological; the dates at the beginning of each title are those of the first publication of the maps. The testimony of each map is indicated by an S preceding the date when the shoals are put down as not containing islands, and, when islands are given, by a numeral in the same place expressing the number of these islands. Those in the College Library are marked (H. C.).

S (?) 1500. Iuan de la Cosa. Mappe-Monde. N. of *Espanola*, is *Caocmon*, the most easterly of the Bahamas; S. E. of this run two dotted lines, a bar or shoal, not named.

Original in Royal Library, Madrid. Reproduced, full size, in Jomard's *Monuments de la Géographie*. Stevens in his *Notes* (H. C.) copies Jomard. Humboldt's copy in the *Examen Critique*, vol. v. (H. C.) and in app. to Ghiliani's *Behaim* is not accurate.

? **1501-4. Portuguese map**, giving coasts of Europe and America. Date and author unknown. N. of *Spagnola* to the extreme east, are two nameless islands followed by three rocks and the words *baxida ? lohio*.

Original in Munich. Reproduced, full size, in Kuntzmann's *Atlas zur Entdeckungsgeschichte America's*, pl. ii.

S (?) 1511. Peter Martyr d'Anghiera. Map of the West Indies. The Bahamas are given, but not named. At the east end a large shoal surrounds the last five or six islands, and stretches beyond them to the east, the point curving northward.

Contained in *P. Martyris Angli Mediolanensis Opera*, etc. Hispali, 1511. Reproduced in the Carter Brown Catalogue and in Stevens's *Notes*, pl. iv., 5.

1. 1514 (?). Portuguese Portolano. Undated, author unknown. The most easterly of the Bahamas is a small island in the shape of a Greek cross, intitled *babueca*, S. E. from which runs a long shoal containing rocks. It is named *abrejo*. Against this name is the inscription: Terram antipodum R. gis castelle | Inbenta p^r xpo^oforum columbã | ge- | nuensem.

Original in Munich. Reproduced in Kuntzmann's *Atlas*, pl. iv.; in Stevens's *Notes* pl. v. (H. C.); and on a reduced scale and incorrectly in Kohl's *Discovery of the East Coast of North America*, p. 179. (H. C.) It should be borne in mind, however, that Kohl's reproductions of maps in this work were purposely incomplete, his intention being to give only what pertained to the subject he was illustrating, and that he avoided facsimile representations.

* * * An island of the name of Babueca is given on a terrestrial globe of the first half of the sixteenth century now in Frankfurt-on-the-Main, but the island is located N. E. of and near Cuba in 30° N. There are rocks indicated between the island and Cuba. (See Jomard, *Monuments*.)

S. 1519? Visconto de Maiollo. Mappe-Monde. Undated. Extreme East, lat. 22° N., a shoal, shaped like a bird's wing, extends from W. to E., and is named *Abro logio*. No other name is given among the Bahamas.

Original in Munich. Reproduced in Kuntzmann's *Atlas*, pl. v.

S. 1527. Spanish Mappe-Monde. Author unknown. A diamond-shaped shoal forms the eastern end of the Bahamas. It is named *Baxos de Babueca*.

Original, or a very early copy, at Weimar. The American portion is reproduced, full size, by J. G. Kohl in *Die beiden ältesten General-Karten von Amerika*. Weimar. 1860. P. Dr. Kohl identifies *Baxos de Babueca* with the present *Silver Bank*. It better corresponds to *Mouchoir Carré*.

S. 1529. Diego Ribero. Spanish Mappe-Monde. Much like the last. The Bahamas end in *Baxos de Babueca*, a diamond-shaped shoal.

Original or early copy at Weimar, also a copy at Rome. Reproduced first by Sprengel in his translation of Muñoz *Geschichte der neuen Welt*. Weimar. 1795. (H. C.), and recently by J. G. Kohl, in *Die beiden ältesten General-Karten von America*. Weimar. 1860.

S. 1541. Gerard Mercator. Terrestrial Globe. N. of *Hispaniola*, an island *Cacomium*, followed by *Nuniona*, a small island surrounded by a shoal, to the E. of which is a diamond-shaped shoal, *Abreosa*.

Original, engraved in sections, is in the Royal Library at Brussels. Reproduced in *Les Sphères Terrestre et Céleste de Gerard Mercator éditées & Louvain en 1541 et 1551. Ed. nouvelle.* Bruxelles. 1875. (H. C.)

S. 1542-43. French Mappe-Monde. Undated; author unknown. Called "Henry II's map." A diamond-shaped shoal. *Abreoto*.

Original in the National Library, Paris. Reproduced by Jomard, *Monuments*, etc., pl. xix. It much resembles the map by Thomas Hood. 1592. (q.v.)

S. 1544 Sebastian Cabot? Mappe-Monde. *Baxos de abroyo* is a large diamond-shaped shoal.

Original in the National Library, Paris. Reproduced by Jomard, *Monuments*, pl. xx. Stevens in his *Notes* gives only the St. Lawrence, so also Kohl, *Discovery of East Coast*, p. 358.

S. 1554. Iuan Belloero. *Brevis, exactaq. totius novi orbis, et Peruviae regionis descriptio recens edita.* An unusually good map. *Bayos de Bubuca* is a diamond-shaped shoal.

This map was first published in Belloero's edition of Gomara, *La Historia General de las Indias*. Anvers. 1554. It is found in several other works published by Belloero, as in Ciega de Leon, 1556; Darinel de Tirel, 1555; Levinus Apollonius, *de Peruviae . . . inventione*, etc. Antwerpiae. 1566. (H.C. 2385-28. cab.)

S. 1569. Gerard Mercator and sons. *Mappe-Monde.* *Abriojo* is a diamond-shaped shoal.

Original in the National Library, Paris. Reproduced, full size, in Jomard's *Monuments*, pl. xxi. Bahamas are like the group in Michael Mercator's map; *America sive India Nova* in the Mercator-Hondius Atlas of 1613. (H.C. 36.56.)

S. 1580. Vaz Dourado. Atlas. *Abriojo* is a diamond-shaped shoal.

Original at Munich. Reproduced, full size, in Kuntzmann's *Atlas*, Plates viii.-xii. West Indies on pl. x.

S. 1584. Abraham Ortelius. *Hispaniolae Cubae aliarumque insularum circumvicentium, delineatio, etc.* A detailed map of the West Indies in the *Theatrum orbis Terrarum*, edition of 1584. (H.C.) On the east end of the Bahamas is *Scylla Magna*, a diamond-shaped shoal. The Great Bahama reef is *Carybdis Magna*.

This map is not in the edition of 1570, or in that of 1575 (H.C.). The edition of 1530, which has some new maps, I have not seen.

S. 1592. Thomas Hood. On this map, which much resembles the map of Henry II. (1542), *Abriolo* is a diamond-shaped shoal.

Original at Munich. Reproduced, full size, in Kuntzmann's *Atlas*, pl. xiii.

S. 1594. Arnoldus Florentius à Langren. *Delineatio omnium orarum totius Australis partis Americae, etc.* In Linschot's *Voyages*. Drawn after Lusitanian charts. *Abri Ojo* is a diamond-shaped shoal.

This map is found in the Dutch edition of Linschot, 1594; in the English edition by Wolfe, 1598 (H.C.), though the author's name is here omitted, and in the French edition, Amsterdam, 1638. (H.C.)

S. 1600. Molineaux and Wright. [See Preface to Hakluyt Society's fac simile.] Map of the World. *Abrecoso* is a shoal of indefinite shape.

This map is found in some copies of Hakluyt's *Collection of Voyages*, edition of 1598-1600. The Lenox library in New York has a copy of this edition, with the map, in beautiful condition. It is probably the map referred to in the preface to Hakluyt's first edition (1589) (H.C.) as shortly to appear. It is reproduced in facsimile in the publications of the Hakluyt Society. London, 1880. (H.C.)

1. 1600 (?). Iodocus Hondius. *Vera totius expeditionis nauticae Descriptio D. Franc. Draci, etc.* N. E. of *Spaniola* and near the tropic of Cancer is a small island surrounded by a reef or shoal.

The map was to illustrate Hondius' ed. of Drake and Cavendish's *Voyages*. It is reproduced in the Hakluyt Society's edition of *The World Encompassed*. 1854. (H.C.) In the introduction, p. xv, the map is said to come from a Dutch work beginning "Corte beschryvingke van die seer heerlicke voyagie der Capiteyn Draeck," which was translated and published (without this map) in 1742, by Mr. Wright. I have not found any other mention of such an edition.

1. 1601. Herrera. Map of America. *Abreojo* is an island surrounded by rocks or shoals, as in Hondius' map.

Contained in the *Descripcion de las Indias*. 1601 (first edition). Barlaeus' Latin edition 1622 (H.C.), has the same map.

S. 1607? Iodocus Hondius. Map of America, in the atlas of Mercator. 1613. (H.C.) *Abreloio* is a diamond-shaped shoal.

This is one of the maps which I. Hondius added to Mercator's. He bought Mercator's plates in 1604, and died himself in 1611.

S. 1625. Master Briggs. *The North part of America.* *Abriojo* is a large oblong shoal with incurving sides.

Contained in *Purchas His Pilgrims*, vol. iii. p. 853.

S. 1625. Ioannus de Laet. Map entitled: *De groote ende kleine Eylander van West-Indien.* *Abreojo* is a large diamond-shaped shoal. Scale 1 in.-140 Eng. miles.

This is in the first Dutch edition of de Laet's *Nieuwe Wereld*. The Latin edition, *Novus Orbis, etc.*, Lugd. Bat. apud Elzivirios, 1633, has the same map. (H.C. 2 copies.) The map entitled *The 1 Landes of the West Indies*, in the English translation of Mercator and Hondy's Atlas, London, 1635 (H.C.), is like the above.

S. 1635. Guil. Blaeu. *Tweede Deel van't Tooneel des Aerdricks ofte Nieuwe Atlas.* Amsterdam. 1635. (H.C. 36.43.) 2d part. 1. Map of America. *Abrolha*, an oval shoal. 2. *Insulae Americanae in Oceano septentrionali, etc.* *Abreojo ó Baxos de Babueca*, a large diamond-shaped shoal.

Blaeu's first Atlas was *Appendix Theatri Ortelii et Atlantici Mercatoris*. 1631. I have not seen a copy. The *Novus Atlas* came in 1635, and Blaeu and his sons continued to publish it until 1662, when it filled six folio vols. (H.C. Art Room.) The American maps were not altered. The detailed map of the West Indies is slightly altered from de Laet's. In the form Blaeu gave it, it was often printed by other map-makers under their own names. It occurs in the Harvard Library under the following forms: 1^o. *Les Isles Antilles, etc.* N. Sanson d'Abbeville, Paris, 1656. 2^o. Map by Nicolaus Vissher. 3^o. Map by Peter Vander. 4^o. Map by Cornelis Dankerts. 5^o. In the *Atlas Nouveau* par le Sieur Sanson, pub. about 1700? 6^o. In *De Nieuwe en Onbekende Weereld, etc.* Arnoldus Montanus, Amsterdam. 1671, p. 172-3. (H.C. 1331.26.) Same in German by O. [illegible] D. [illegible], Amst. 1673, and in English by John Ogilby. London. 1671. (1331. 5.) In the *Historia General de las Indias Occidentales* (Herrera) Amberes. 1728, vol. iv. p. 6. 8^o. *Insulae Americanae nescit Cuba Hispaniola Farmaica Pto Rico Lucania, etc.* par Reinier & Josua Ottens. In Ottens' *Atlas Minor*. 1730 (?). Founded on Blaeu, though the drawing is more jagged. 9^o. The same Atlas contains a direct copy of Blaeu's map. 10^o. *Isles de l'Amérique* par Pierre Vander Aa . . . in *la Galerie agréable du monde*. Leide. 2 vols. about 1765 (?).

1. 1636 (?). Joannes Jansson. *America Septentrionalis.* Undated. Latest discovery noted is in 1631. *Baxos de Babueca* is an island with a shoal around it, as in Herrera's map, 1601. Otherwise the map is not like Herrera's but like Blaeu's of 1635.

This is a loose sheet, No. 4355 in the collection of loose maps, H.C. It is from Jansson's *Atlas*, published 1636, which contains also the map *Insulae Americanae, etc.*, as in Blaeu.

S. 1652. Nicolaus Vischer. *Americae Nova descriptio.* *Abrelcio* a diamond-shaped shoal, whose N. W. side touches a small nameless island lying just south of a slightly larger one, *Amiona*.

A loose sheet. Another map, *Novissima et accuratissima Totius Americae descriptio per N. Vischer* has the word *Abreojo* S. E. of *Amiana*.

S. 1670. John Ogilby. *Novissima et accuratissima Totius Americae Descriptio.* *Abreojo* is a shoal roughly diamond shaped.

The map occurs in *America, being an accurate description of the New World, etc.* London. 1670, which is a translation of Montanus', *De Nieuwe en Onbekende Weereld*. There was another edition in 1671.

S. 1675. Arent Roggeveen. *The First Part of the Burning Fen, Discovering the whole West Indies, The Continent and the Islands, Beginning from Rio Amasones, and ending on the North of Terra Nova, described by Arent Roggeveen.* Amsterdam. Peter Goos. 1675. Plate 1. *Generaale Kaert van West Indien.* *Abreojo ó Baxos de Babuca* is a diamond-shaped shoal. The map is founded on Blaeu's. Plate 20. *Pascaerte van't Eylant Spagnola, etc.* On a larger scale than any of an earlier date known to me. *Abrolho de Babueca* is a large shoal, diamond-shaped with incurving lines.

This work is a translation, with the original chart, of a Dutch work. See Uricoechea's *Mapoteca Colombiana*, § 2, No. 7.

S. 1692? Archipelague du Mexique où sont les isles de Cuba, etc., chez Pierre Mortier. Amsterdam. On a large scale. *Abreio* on *Baxos de Babueca*, a large kidney-shaped shoal. S. E. of it is a long and narrow shoal called *N. Riff*, and S. of that is a small round shoal with a rock in the centre, not named.

This map is contained in vol. i. of the *Atlas Nouveau par le Sr Sanson et H. Jaillot, Paris*. No date of publication, but probably about 1692.

S. 1700. Edm. Halley. *Nova et accuratissima totius terrarum Orbis Tabula Nautica*. S. E. of Turks is an oval shoal, not named.

In Ottens' *Atlas Minor*, vol. iv.

S. 1703. Ier. Sellers and Ch. Price. *A New General Chart of the West Indies*. Some distance S. E. of Turks is a long and narrow shoal, widest toward the west, which is named *Ambrosos*. S. of it, and very near, is a small shoal not named. This must be North Riff, the present Silver Bank, and not *Mouchoir Carré*.

Found in *Navigantium atque Itinerarium Bibliotheca, or a complete Collection of Voyages, etc.* John Harris, London, 1705, vol. ii., p. 801.

1. 1703. Del Isle. *Carte du Mexique et de la Floride*. A loose sheet. *Mouchoir Quarré*, a shoal without islands. S. E. from it is a square island, quite large, named *Caico de Plata*. A loose sheet map by Homann has the same arrangement.

1. 1717. N. de Fer. *Le Golfe du Mexique*. A loose sheet. *Ouvre d'oeil ou Mouchoir Quarré*, a diamond-shaped shoal without islands. E. of it *I. Caico de Plata*.

There is a similar map in Ottens' *Atlas Minor*, vol. iv., 1730 (?). It is called *Carte de la Nouvelle France*.

S. 1720. Herman Moll. Map in two sheets. The second contains the West Indies. S. E. of Turks. *North Riff* and *South Riff* as shoals; no others given.

Another map by Moll, a large chart of the West Indies, without a date, but perhaps published in 1715, has only these two shoals. An inscription near N. Riff runs: "Here Sir Wm. Phips took up a vast quantity of silver from a Spanish Wreck in 1685." The northernmost of the two parts into which Silver Bank was formerly supposed to be divided is, after this time, often named *Phips' Plate*. I have seen a map which placed the scene of Phips' discovery off the coast of Venezuela. It will be remembered that this recovery of treasure secured for the bluff, illiterate, but ambitious seaman, his knighthood, and assisted him to become the first Royal Governor of Massachusetts Bay, under the charter of William and Mary.

S. 1722. Delisle. *Carte d'Amérique*. Loose sheet. E. of *Amana* a large shoal. Another copy printed by Covens and Mortier calls the shoal itself *Amanic*.

S. 1722. C. Delisle. *Carte de l'Isle de St. Domingue Dressée en 1722 pour l'usage du Roy sur les mémoires de M. Frezier Ingénieur de S. M. et autres assujettis aux observations Astronomiques*. E. of *Turques* is a large shoal, irregularly diamond-shaped, with incurving sides. The main body of the shoal is named *les Abrouilles ou Mouchoir Quarré*. The extreme south point is named *Basses de Babueca*. S. E. lies a smaller oval shoal, *le Varret*, and S. of that another, *Caye d'Argent ou Bayo de Plata*.

A loose sheet in the map portfolio "St. Domingo," (H.C.) Also in "*La Galerie agréable du Monde, etc. en LXVI Tomes*. Leide. Pierre Vander Aa, vol. ii. (no date — after 1763).

1726. Le Grand Dictionnaire Géographique et Critique par M. Bruzen la Martiniere. [Geographer to Philip V. of Spain.] 1726-1737. Ten vols. f°. Vol. I. (1726). Article *Abriojos*. Ce mot qui signifie Ouvrez les yeux est le nom qu'on a donné

à divers écueils de la mer . . . Mr. De l'Isle écrit *Abroxo* le nom de l'isle ou écueil qui est entre les *Lucaies* au 22 d. de lat. au 308 d. de long. et à seize lieues de la côte Sept. de l'isle de S. Domingue. Vol. iii. 1730, under *Caicos* says, — lat. 21, N. of Gulf of Samana, is a little island called *Caico de Plata*.

4. 1730. Le Sr d'Anville. *Carte d'Isle de Saint Domingue, etc., dressée particulièrement sur la dernière Carte de Mr Frezier et sur les mémoires de Mr. Bullet. Par le Sr d'Anville Oct. 1730. Mouchoir Quarré*, a shoal of irregular shape, lat. 21, long. 308, contains four islands, the northernmost being the largest, though that is small.

3. 1731, le Sr d'Anville. Map contained in *l'Histoire de l'Isle Espagnole ou de S. Domingue par le P. Pierre François Xavier de Charlevoix. Paris. 1730*. The map is dated 1731. It is like the large map by the Ottens (see below), but has three islands in *Mouchoir Quarré*.

S. 1733. H. Popple. *Map of North America*, in 19 large and 5 small sheets. *Abrollo Shoal* is large, irregularly oval; with axis E. and W. It contains many reefs, or groups of rocks, but no islands. S. E. lies a long and narrow shoal, *North Riff* (in the shoal are the words *Plate Wreck*). S. W., and near to it, is *South Riff*, a round shoal.

S. 1740. Popple-Buache. Reduced from Popple, with corrections, by Phil. Buache. *Les Abrouilles, le Varret, Caye d'Argent ou Bayo de Plata*.

In P. Vander Aa's *Galerie du Monde*, vol. ii.

S. 1740. Stevens-Herrara. Map in *The General History of the Vast Continent and Islands of America, etc.*, translated from Herrara by Capt. J. Stevens. It is a correction of Herrara's map. *Le mouchoir* is a small, nearly circular, shoal. It is Herrara's "*Abrejo*" with the island left out. S. W. of it are four islands.

S. About 1740? J. and R. Ottens. *Nova Tabula exhibens insulas Cubam et Hispaniolam vulgo S. Domingo Dictam Insulas Lucaies seu Bahauamas, etc.* E. of *Turks, les Abrolles ou Mouchoir Quarré*, a large irregular shoal oblong from N. E. to S. W. A little S. E. is the *Cayes d'Argent ou Noord Rif*, and S. a small round shoal not named.

This map is found in the *Atlas Minor* published in four vols., by Josua and Reiner Ottens, at Amsterdam. It contains maps by various authors and of various dates, the latest 1740 I believe. Vol. iv. contains six maps of the West Indies; two of these have nothing E. of *Turks*. Another is "*Carte de la Nouvelle France, etc., dressée sur les mémoires les plus nouveaux recueillis pour l'établissement de la compagnie française occidentale*. This has *Caico de Plata* as in N. de Fer's map, 1717. There follow two copies of Blaeu's 1635 map, and finally the above.

S. 1741. Beaurain. Loose sheet map of the Atlantic Ocean. Paris.

S. 1742. Mouret and Page. *A New Chart of the Bahama Islands and the Windward Passage*. E. of *Turks* is a large shoal cut off by the eastern edge of the map. It contains rocks, but no islands. This is the earliest map I have seen which gives soundings. They vary from 10 to 14 fathoms in the shoal.

Contained in *The English Pilot. The 4th Book. West India Navigation from Hudson's Bay to the river Amazons*. The work contains also *A correct chart of Hispaniola with the windward passage, by C. Price*. This is Delisle's map of 1725.

3. 1746. le Sr d'Anville. *Amérique Septentrionale* in two sheets. E. of *Turks* is a triangular shoal *Mouchoir Quarré* with base S. E., containing

three islands; the most easterly and largest, elbow-shaped. S. E. two shoals, *Cayos d'Argent*.

Loose sheet; also in *La Galerie agréable du Monde*, Pierre Vander Aa, vol. i.

3. 1747. Eman. Bowen. Atlas to Bowen's *Complete System of Geography* (compiled from the 4th ed. of the Complete Geographer published under the name of Herman Moll). *Abrollio* has three isles. S. E. is *Phyn's Plat*.

The same map appears in Harris Voyages, 1764; ii. 38. There is a map by Bowen, of 1733, which has isles in *Mouchoir Carré*. I have not seen it.

5. 1749. S^r. Robert di Vaugondy. *Isole Antille. Fizzoletto Quadrado* has five islands. S. E. near Cape Samana, *caye d'Argent* a shoal. N. E. *Vigies*, a round shoal. In a loose sheet map by the same there are six islands.

Contained in *Storia degli Stabilimenti Europei in America*, vol. ii. Translation of Edmond Burke's *An Account of the European Settlements in America*.

3. 1753. Thos. Jefferys. Chart of the Atlantic Ocean. Loose sheet. London. *Obresto*, a triangular shoal with three isles. S. E. *Phips or Silver Key*, S. of the latter a round shoal.

Fourth chart of a series of six. Found also in his Atlas of 1768 and later.

7. 1754. Bellin. Map in *Allgemeine Historie der Reisen zu Wasser und zu Lande*, etc., Leipzig, 19 vols. *Viereckichte Schnupftuch*, an oblique parallelogram, contains six islands. S. E. lies the oblong *Silber Klippe* with one island.

S. 1755. Michel Seligman. Loose map. *Abrollio shoal*, — *N. Riff*; *S. Riff*.

3. 1755. Thomas Lopez y Juan de la Cruz. *Mapa Marítimo del Golfo de Mexico e Islas de la America para el uso de los Navagantes en esta parte del mundo*. Loose sheet. *El Pañuelo Quadrado* has three isles. The N. W. island has a rocky south-east shore. *Cayos de Plata* has no islands.

S. 1757. Covens and Mortier. Map of America after that by N. Witsen. Loose sheet. Amsterdam. *Caicos*, *Amarana*, *Abreio*, are all shoals.

S. 1757. J. Covens and C. Mortier. *Archipelague du Mexique*. Amsterdam. Loose sheet. S. E. of Turks is an oblong shoal from W. to E., in which are rocks, and a stranded vessel; it is named *North Riff*, *Sir Will Peyp's Platt Rack* or *Ambroches*. S. of this is a diamond-shaped shoal named *South Riff* at W. end and *Mouchoir Quarré* at E. end.

3. 1757. Covens and Mortier. *L'Amérique Septentrionale*. Amsterdam. Loose sheet. *Mouchoir Quaré* with three islands, *Cayos d'Argent* with none.

4. 1760. Thos. Jefferys. Map of S. Domingo. London. Loose sheet. Four islands in *Mouchoir Quarré*.

1. 1760. Sanson-Robert. *L'Amérique Septentrionale et Meridionale* par les S^{rs}. Sanson, rectifiée par le S^r. Robert. S. E. of Turks *le Mouchoir Quarré* with one island.

Found in *La Galerie agréable du Monde*, by P. Vander Aa, Vol. i.

6. 1760. S^r. Robert de Vaugondy. *Amérique Septentrionale*. Le *Mouchoir Quarré* has six islands. S. E., *Caye d'Argent*. N. E., *Vigies*.

In Vander Aa's *Galerie du Monde*, vol. i.

Isls. 1762. II Gazzetier Americano. 1763. From an English original. London, 1662. Vol. ii. p. 5 says there are islands in the *Mouchoir Quarré* but their number is uncertain.

Vol. ii. of this work, in a copy in the Astor Library, contains a map which gives two islands in *Abrejo*. S. E. is *Cayos de Plata*, a large group of rocks near St. Domingo.

1. 1763. Mat. Scutterius. North America. A loose sheet. *Ouvre d'Oeil*, a diamond-shaped shoal without islands. Directly E. an island *I. Carco de Plata*.

The same arrangement occurs in an anonymous map in the Parkman Collection, H. C.: in a map in Ottens' Atlas, etc.

S. 1763. Delisle-Buache, l'Amérique. Delisle's map of 1722 corrected by Phil. Buache. An unnamed shoal E. of Turks.

3. 1763? Eman. Bowen and John Gibson. *An accurate map of North America* according to the treaty of Paris 1763. In several sheets. *Abrejo* or *le Mouchoir Quarré* has three islands. S. E., *Cayos de Plata* or *Silver Keys*, also *Phips Keys*. E. *Vigies*. Between the latter two this note: *These are small rocky islands with oozy shores, where small ships if run aground are easily got off*.

Contained in Thomas Jeffery's American Atlas, published by Robert Sayer, 1768, in French and English.

3. 1763. Thos. Jefferys. Loose sheet. *Abrejo* has three islands.

5. 1765. I. Palairot and L. Delarochette. North America. Loose sheet. *Mouchoir Quarré*, oval shoal, axis N. and S.

3. 1765. Isaak Tirion. *Kaart van de onderkoningschappen van Mexico*, etc. Amsterdam. *De vierkante Zakdock*, an irregular triangle with three islands. S. E. two shoals, *Zilver Klippen*.

Contained in *Hedendaagsche Historie of Tegenwoordige Staat van Amerika*. I. Tirion. Amst. 1760. 3 vols. Vol. i. p. 112.

3. 1768. Thos. Jefferys. *A general Topography of North America and the West Indies*. This Atlas contains the maps noticed under 1753 (Chart of Atlantic), and 1760 (St. Domingo), besides two new maps with three islands.

Jefferys was at work on a detailed Atlas of the West Indies, but it was not published until after his death. See 1775.

3. 1770? Rizzi Zannoni. *Carte Géohydrographique du Golfe du Mexique*, etc., *el Pañuelo Quadrado* very irregular, with three isles, one ten or twelve miles long. S. E. comes a shoal, *Cayos de Plata*.

In *Atlas moderne*, etc., par plusieurs Auteurs. Paris.

13. 1775. Thos. Jefferys. *The West India Atlas or a comprehensive description of the West Indies, illustrated with forty correct charts and maps taken from actual surveys*. By the late Thos. Jefferys. London, Sayer & Bennet. The most important map is *The Windward Passage from the East end of Cuba, and the North part of St. Domingo*. East of Turks is a large irregular diamond-shaped shoal, with the inscription: *Banc du Mouchoir Quarré, called also los Abrojos and formerly Baxos de Babueca*. This *Banc* is very little known. The soundings are taken from an English chart. It contains nine islands. Soundings vary from 9 to 15 fathoms. S. E. are three small islands called *The three Keys*, directly S. are soundings with the note: *Soundings taken by the French ships in 1753*. S. E. and near is an oblong shoal narrowing toward the east, with one island in the centre. Directly S. is a small oval shoal. Between these shoals the name: *Cayos d'Argent*.

Against the north shoal the names: *La Grande Caye* or *Caye du Nord* called by the English *Phips Plate* or *Plate Wreck*, also *North Riff*. Against the south shoal the names: *Caye du Sud* or *South Riff*, also *Petite Caye*. E. of these two shoals is a third small one named *Pracel*. Due N. of the last, in lat. 21, is a very small shoal, and the note: *A shoal where the Suber and Severn have anchored.** Sounding 8.

This atlas contains a *Chart of the Atlantic Ocean* which has N. E. of Severn Shoal a *Rocky bank, where a Dutch ship was wrecked in 1701*. Toward the close of the century Jefferys's maps were published in several editions by Laurie and Whittle, as in the *West India Atlas, 1793*; the *West India Islands, 1799*; and a *complete Pilot of the West Indies*. No date, but the maps are dated (like those in the other two) 1794. In the map of the *Windward Passage* the words "or Square Handkerchief" are inserted after "Mouchoir Quarré" in the titles of that shoal, and there are only seven islands in it.

3. 1776. Thos. Jefferys. Map of West Indies and Central America. Scale 80 miles to an inch. *Abrejo* or *le Mouchoir Quarré*. Oblong shoal; axis N. E. to S. W. S. E., three islands. S. E., oblong shoal, axis N. W. to S. E., named *Cayos de Plata*, also *Phips Keys*. S. a small shoal; E. a small shoal; both unnamed. Between the *Abrejo* and the *Cayos de Plata* is a note: *These are small rocky islands with oozy shores where small ships if run aground are easily got off.*

Contained in *The American Atlas, composed from numerous surveys by Major Holland, Lewis, Evans, Wm. Scull, Henry Monson, Lieut. Ross, I. Cook, Michael Lane, Joseph Gilbert, Gardner, Hallock, etc.*, by the late Thos. Jefferys. London. 1776.

4. 1777. Danville-Pownall. London. N. and S. America in four sheets. E. S. E. from Turks *le Mouchoir Quarré* or *Abrejo* with four islands. S. E. *Silver Keys*, E. *Vigies*, both shoals without islands.

3. 1777. Thos. Kitchin. Map of West Indies. In *Mouchoir Quarré*, three or four isles. S. E., two small shoals, *La Plata Cayes*.

In Robertson's *History of America*. 1777.

3. 1778. Wm. Russell. Map of West Indies. *Abrejo*, by the French *le Mouchoir Quarré*, irregular, three or more islands. E. S. E. two shoals, *Cayos de Plata* or *Silver Key*. E., and at some distance, small shoal, *Vigia*.

In *History of America*. Russell. London, 1778. Vol. i., p. 516.

3. 1780. L. Denis. *Carte du Golphe du Mexique*. After those made by order of the Courts of France, Spain, and England. Loose sheet. *Abrejo* ou *le Mouchoir Quarré peu connu*, a triangular shoal with base N. and three islands. S. E., small shoal, *caye d'Argent* ou *Bayo de Plata*.

6. 1780. Rigobert Bonne. *Isle de Saint Domingue*. *Mouchoir Carré*, diamond-shaped with N. E. and S. W. points elongated. Four isles. S. E., *Cayos d'Argent*, long shoal W. to E., with two islands. S., small shoal not named.

No. 37 in the *Atlas de Toutes les Parties connues du Globe Terrestre dressé pour l'Histoire philosophique et politique des Établissements et du commerce des Européens dans les deux Indes par l'Abbé Thomas Guillaume François Raynal*.

12. 1782. Sayer and Bennet. *A New General Chart of the West Indies from the latest marine Journals and Surveys*. London. Loose sheet. E. of Turks *Square Handkerchief* with eight isles. S. E., *Triangle*, a group of three islands. S. E., *Phips' Plate* with one island and *Silver Keys*, a shoal.

8. 1782. Don Juan Lopez. *Carta Nautica que comprehende los de se mbrocaderos al mar del norte viniendo de la Jamaica, etc.* Madrid. Loose sheet. *Los Abrojos, Baxos de Babueca ó el Pañuelo cuadrado poco conocido*. Shoal on a large scale; eight islands; soundings 8-15. Like Jefferys' chart.

14. 1783. Andrew. *New map of the West Indies*. N. B. *West Indies from Lopez's four-sheet map. Cuba from a Spanish ms., all the sands from French and Dutch charts*. S. E. of Turks is a shoal, larger than Turks, indistinctly diamond-shaped, named *Banc du Mouchoir Quarré* or *los Abrojos* & formerly *Baxos de Babueca, Square Handkerchief*, seven islands. S. E., *The Three Keys*, three isles. S. E., *Cayos d'Argent*, consisting of two shoals, *la Grande Cay* or *Caye du Nord* with one island, and *Caye du Sud*. Between them *White Keys*, three isles. E., *Pracel*; N., in lat. 21, *A shoal*.

3. 1784. Albert and Lotter. *A New and correct map of North America with the West India Islands*. According to the treaty of Paris, 1783. London. In three loose sheets. *Abrejo* or *le Mouchoir Quarré*, oval from N. E. to S. W. Three isles. S. E., two shoals near together, *Cayos de Plata* or *Silver Keys*, also *Phips' Keys*. E., a shoal, *Vigies*.

3. 1785. Moithey. *Amerique Septentrionale*. Loose sheet. Three islands in *Mouchoir Quarré*. None in *Cayos d'Argent*.

S. 1787. M. de Chastenet-Puységur. *Le Pilote de l'isle de Saint Domingue et des Débarquements de cette isle comprenant une carte de l'isle de Saint Domingue et une carte des Débarquements depuis la caye d'Argent jusqu'à la partie ouest des Isles Lucayes*. Publié par ordre de Roi à Paris de l'imprimerie royale, 1787. 40. Contains charts and the ship's journal of the cruise of the C^{te} de Chastenet-Poiséjour, Major des Vessaux de Roi, on the corvette le *Vautour* 1784, 1785 made for the purpose of exploration. The expedition cruised over the *Silver Bank*, *Mouchoir Quarré*, and among Turks and Caicos I. The Journal, §61 and §62, gives positions and soundings for *Silver Bank* and *Mouchoir Carré*. It reports shoals and reefs, but no islands. *Mouchoir Quarré*, lat. 21°, long. 73°, axis E. N. E. to W. S. W., contains two shoaler spots on the northern edge. *Cayos d'Argent* is given as one large shoal, the supposed division having been proved not to exist.

The Journal was also published in 8° without maps.

1788. Diccionario Geográfico Histórico de las Indias occidentales ó América, etc., por el Coronel Don Antonio de Alcedo. Madrid. 1788. Article *Pañuelo Cuadrado*, vol. iv., p. 55, is as follows: *Baxo grande de arena que hace esta figura, y tiene en medio diferentes Isolotes, algunos los llaman los Abrojos, y en él se han perdido muchas embarcaciones, están al N. del Cabo Rojo de la Isla Española y al E. de los Caicos.*

There is an English translation by G. A. Thompson. London. 1814.

8. 1789. The American Pilot. Contains a map of the West Indies taken from an English publication of 1789. *Square Handkerchief*, irregular diamond-shaped, five islands. S. E., *Triangle*, three isles. S. E., two shoals of similar shape with narrow passage between them, *Phips' Plate* and *Silver Key*.

11. 1795. B. Edwards. Large map of West Indies. *Banc du Mouchoir Quarré* or *los Abrojos. Baxos de Babueca. Square Handkerchief*. Shoal of rather oval form, axis N. E. to S. W. with seven islands. S. E., *3 Keys*, three islands. S. E., *la Grande*

* This was in 1745. I am informed that the shoal is not now in existence.

Caye or Caye du Nord with one island. S., *Caye du Sud*. E., *Pracel*. N., *A Shoal*.

This is contained in Bryan Edward's *History of the West Indies*. London. 1795. In 1796 the map was published in reduced form by F. A. Güssefeld at Weimar in Sprengel's German translation of Muñoz's *Nuevo Mundo*. In 1810 a reduced copy appeared in *A New Atlas of the British West Indies with a whole sheet map of the West India Islands, etc., to accompany the Philadelphia edition of Edward's History of the West Indies*. Charleston, 1810.

10. 1795. S^r. de la Rochette. Large map of North America, in three sheets. *Le Mouchoir Quarré* or *Abreojos*, triangular with base to S. E., six islands. E. N. E. of this and N. of Phips' Plate is *Severn and Superb Shoal*. S. E. of *Abreojos*, *Triangle*, three isles. S. E., *Phips' Plate* with one island, and *Silver Key*. E. N. E., *Dutch Shoal*, small.

1. 1795. Atlas to Guthrie's *System of Geography*. London. Map. 24. One island in *Mouchoir Carré*.

The map that accompanies an American Edition of Guthrie has six islands in *Mouchoir Carré*, and the *Triangle* of three islands.

11. 1796. Captain Robert Bishop, John Stevenson and others. *The Atlantic Pilot*, London. General map of West Indies. *Mouchoir Carré* has eight islands. S. E., *The three Keys*. S. E., *Phips' Plate* or *North Riff* and *South Riff*. E., *Pracel*. N., *Severn Shoal*, the last four without islands.

The general map is not dated. One of the others was drawn in 1765. The special map of Turks was based on the survey of the sloops "l'Aigle" and "l'Émeraude," in 1753, with later corrections.

3. 1796. American Atlas. New York. *Banc du Mouchoir*, three islands. S. E., *la Caye du Nord*. E., *Pracel*.

3. 1796. Karte von Mittel Amerika oder West Indien. *Le Mouchoir Quarré* has three islands.

3. 1796. Güssefeld. Nord- und Süd-Amerika. Nürnberg. Shoal with three islands S. E. of Turks.

11. 1800. Jean Baptiste Nicolas Denis, d'après de Manneville. *The Oriental Pilot or East India Directory*, etc. London. Map of the Atlantic. Seven islands in *Mouchoir Quarré*; three in *Triangle*; one in *Phips' Plate*. *Severn Shoal* is given.

22. 1802. C. G. Richard. Karte von Nord Amerika. Weimar. Loose sheet. *Mouchoir Quarré* oder *los Abrothos* contains seven islands. S. E., 3 *Keys*, three islands. S. E., *Caye d'Argent*, three quite large islands and eight or nine smaller ones.

S. 1803. A. Arrowsmith. *Chart of the West Indies and Spanish Dominions in North America*. E. of Turks is a round shoal without name or soundings. S. of this and S. E. of Turks *Mouchoir Quarré* or *Abreojos*, oblong from W. to E.; no islands, but one shoaler spot. Soundings are given. S. E., *Bayo de la Plata*, one shoal as in Chastenet-Poisésgur's Charts. S. E., *Bayo Navidad* or *Bank of the Nativity*, an oval shoal with soundings 6 to 17. E. of *Mouchoir Quarré* and N. N. E. of *Navidad* is *Shoal where ships have anchored*.

S. 1802. Sorel. *Carte Particulière de l'isle de Saint Domingue* from ms. plans of C^{on}. Sorel, Ingénieur des colonnes, Publiée par ordre du contre Amiral Decres Ministre de la Marine et des Colonnes. Paris. An. XI. Only a corner of *Mouchoir Carré* given. *Cayes d'Argent* has the form which Chastenet Puysésgur gives it.

S. 1806. Map of West Indies and Mexico. Paris. Loose sheet. *Mouchoir Quarré* is cut by a channel in the middle. S. E., *Caye d'Argent*. S. E., *Caye de Noel*, a shoal.

S. 1806. H. F. A. Stieler. *Karte von West Indien* entworfen und gezeichnet Nov. 1806. Nürnberg, 1809. *Mouchoir Carré* divided into two parts. S. E., *Caye d'Argent* and *Bayo de la Plata*. S. E., *Bayo Navidad*.

S. 1811. Pinkerton. Map of the West Indies. *Abreojos* has no islands. S. E., *Bayo de la Plata*. S. E., *Bank of the Nativity*. Contained in Pinkerton's *Modern Geography*, 3d ed. London. 1811; p. 443.

S. 1814. Sam. Lewis. Wall map of United States and West Indies.

4. 1814. Karte von Nord Amerika. Weimar Geographisches Institut. Loose sheet. S. E. of Turks, *Sand Key*, a shoal. E. S. E., four islands named *Mouchoir Quarré* od. *los Abrothos*. S. E., two round shoals, *Caye d'Argent* Nos u. N. W. sp.

7. 1822. Carey and Lea. *Complete Historical, Chronological, Geographical, American Atlas*. Philadelphia. Map 35, *West Indies*, no islands in *Square Handkerchief*. Map 40, *Cuba and the Bahama Islands*, seven islands in *Square Handkerchief*, which is oblong from W. to E.

S. 1838. Bradford. *Atlas of the United States*.

S. 1842. Morse. *Atlas of the United States*. Same in 1845.

3. 1849. Colton. *Map of United States*. Near *Mouchoir Quarré* Passage, on the E., are traces of three islands.

. Maps, the date of which has not been ascertained.

S. R. P. Labat. *L'Isle de Saint Domingue ou Espagne*. A loose sheet, but taken from a book. *Le Mouchoir Quarré ou l'œuvre d'Oeil*. *Banc de Sable et Roches sous l'Eau*. A square shoal bearing the word *Concina*.

S. Voegt and Keusen. *Pas Kaart van West Indien Belfende sov Deszelfs Vaste Kusten als a'Onder behoorende Eyslanden van de Noord Ocean door Vooght Geometra, l'Amsterdam, by Johannes van Keusen Boek en Zee Kaart Verkooper en Groodboogh maaker aande Nieuw-burgh inde Gekroonde Lootsman met privilegie Voor 15 Jaaren*. 2 vols. Special map, No. iii, which is printed upside down, takes in *Abreolo* off *Baxos de Balucea*, a large shoal E. of Turks, diamond-shaped, with lines curving in. The Atlas belongs in the latter half of the seventeenth century.

S. Map of the West Indies and part of the United States. Before acquisition of Louisiana. *Mouchoir Quarré*. S. E., *Bayo de la Plata*. S. E., *Bayo Navidad*.

13. M. Mentelle. *Carte de Golfe du Mexique et des Isles Antilles*. Paris. Loose sheet. *Square Handkerchief*, an irregular diagonal with nine islands. S. E., *Triangle* with three islands. S. E., *Phips' Plate* with one island. S., *Silver Keys*, no island.

. The following figures show the growth of the belief that there were islands beyond Turks to the S. E. :—

Of maps examined dating in the	No islands are given ou	Islands are given on
XVI Cent.	13	2
XVII "	9	2
XVIII "	15	44
XIX " (1st half)	8	4

The map by Juan de la Cosa, that by Peter Martyr, and the Portuguese Portulano, of 1501-4, are omitted as doubtful. Hondius' map of 1600 (?), which shows one island, is classed in the sixteenth century, but it may belong to the seventeenth.

Library of Harvard University.

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NO. 17.



CLASSIFIED INDEX

TO THE

MAPS IN THE ROYAL GEOGRAPHICAL SOCIETY'S
PUBLICATIONS.

1830-1883.

CAMBRIDGE, MASS.:

Issued by the Library of Harvard University.

1886.

Already issued or in preparation :

A Star prefixed indicates they are not yet ready.

1. EDWARD S. HOLDEN. Index-Catalogue of Books and Memoirs on the Transits of Mercury.
2. JUSTIN WINSOR. Shakespeare's Poems: a Bibliography of the Earlier Editions.
3. CHARLES ELIOT NORTON. Principal books relating to the Life and Works of Michelangelo, with Notes.
4. JUSTIN WINSOR. Pietas et Gratulatio. An Inquiry into the authorship of the several pieces.
5. LIST OF APPARATUS in different Laboratories of the United States, available for Scientific Researches involving Accurate Measurements.
6. THE COLLECTION OF BOOKS AND AUTOGRAPHS, bequeathed to Harvard College Library, by the Honorable Charles Sumner.
7. WILLIAM C. LANE. The Dante Collections in the Harvard College and Boston Public Libraries.
8. CALENDAR of the Arthur Lee Manuscripts in Harvard College Library.
9. GEORGE LINCOLN GOODALE. The Floras of different countries.
10. JUSTIN WINSOR. Halliwelliana: a Bibliography of the Publications of James Orchard Halliwell-Phillipps.
11. SAMUEL H. SCUDDER. The Entomological Libraries of the United States.
12. A LIST OF THE PUBLICATIONS of Harvard University and its Officers, 1870-1880.
13. SAMUEL H. SCUDDER. A Bibliography of Fossil Insects.
14. WILLIAM H. TILLINGHAST. Notes on the Historical Hydrography of the Handkerchief Shoal in the Bahamas.
15. J. D. WHITNEY. List of American Authors in Geology and Palæontology.
16. RICHARD BLISS. Classified Index to the Maps in Petermann's Geographische Mittheilungen. 1855-1881.
17. RICHARD BLISS. Classified Index to the Maps in the Royal Geographical Society's Publications. 1830-1883.
18. JUSTIN WINSOR. The Bibliography of Ptolemy's Geography.
- *19. JUSTIN WINSOR. The Kohl Collection of Early Maps.
20. WILLIAM C. LANE. Index to Recent Reference Lists, 1884-1885.
21. A LIST OF THE PUBLICATIONS of Harvard University and its Officers, 1880-1885.

CLASSIFIED INDEX TO THE MAPS CONTAINED IN THE PUBLICATIONS OF THE ROYAL GEOGRAPHICAL SOCIETY, AND IN ASSOCIATED SERIALS.

1830-1883.

BY RICHARD BLISS,

Of the Redwood Library, Newport, R. I.

THE following index includes all the maps and plans published in the first and second series of the *Proceedings*, the *Journal*, and the *Supplementary Papers* of the Royal Geographical Society, and in *Ocean Highways* and *The Geographical Magazine*.

The titles are taken from the maps themselves, and are exact transcripts, with some exceptions in the matter of punctuation and contractions. Titles framed to supply those wanting on the map are indicated by being enclosed in brackets. Indented titles in the index show that the map so represented is enclosed within the border lines of the larger map. The measurements of the size of the map include the outer border lines, the first one given being the one parallel with the title. Where the scale of the map was not given on the original, an approximate scale has been calculated, which is indicated by being enclosed in brackets.

In the early numbers of the *Journal* and *Proceedings*, owing to the absence of any indication as to the pages which the maps were intended to face, it has been thought best to make the reference to the number of the article to which the map belongs; and, as in some of the volumes the numbering of the articles is duplicated or triplicated, reference to maps belonging to other than original communications is shown by the use of (Anal.) and (Misc.), for the analytical and miscellaneous divisions of the work. The date in the index entry is the year for which the volume is published, and not the imprint date, unless both are the same.

Provinces and islands, when remote from the political divisions to which they belong, are classed under the name of the country or state in or near which they are situated. Owing to the lack of well-defined geographical divisions in some parts of Africa, the following arbitrary subdivisions have been made. The Nile Region extends from the Mediterranean to the 10th parallel north latitude, and includes Egyptian Sudan. Maps relating to the Nile south of this must be looked for under Eastern Equatorial Africa (iv. 8. b.). Equatorial Africa embraces that portion of country lying between 10° N. Lat. and 10° S. Lat., and is divided into Eastern and Western on the 25th Greenwich meridian. South Africa is divided into the Tropical and Cape regions on the 20th parallel south latitude. On the other hand, it has been found convenient to unite several distinct political areas, as in the case of the Balkan Peninsula, which is made to comprise all the region formerly known as Turkey in Europe, and in the division of Central Asia, which here includes all the provinces lying between the Kirghiz Steppes on the north and Persia and Afghanistan on the south, and between East Turkestan, India, and the Caspian Sea.

Following are the symbols used for the various works embraced in the index; P., *Proceedings*, first series; Pp., *Proceedings*, second series; J., *Journal*; S. P., *Supplementary Papers*; O. H., *Ocean Highways*, first series; O. Hh., *Ocean Highways*, second series; G. M., *Geographical Magazine*.

Synopsis of the Classification.

I. THE EARTH.

1. Cartographic Projections.
2. The Earth in General.

II. EUROPE.

1. General.
2. Great Britain.
3. Belgium and the Netherlands.
4. France.
5. Spain.
6. Austria-Hungary.
7. Balkan Peninsula.
8. Greece.
9. Scandinavian Peninsula.
10. Russia.
11. Caucasia.

III. ASIA.

1. General.
2. Asiatic Turkey.
3. Arabia.
4. Persia.
5. Central Asia.
6. Afghanistan and Baluchistan.
7. India.
8. Siberia.
9. Chinese Empire.
 - a. East Turkestan.
 - b. Tibet.
 - c. Mongolia, Manchuria, and Korea.
 - d. China.
10. Japan.
11. Farther India.
12. East Indian Archipelago.

IV. AFRICA.

1. General.
2. Barbary.
3. Sahara.
4. Sudan (excepting Egyptian Sudan).
5. Nile and Red Sea Districts.
6. Abyssinia and Somali.
7. Upper Guinea and Senegambia.
8. Equatorial Africa.
 - a. Western.
 - b. Eastern.
9. South Africa.
 - a. Tropical region.
 - b. Cape region.
10. Islands.

V. AUSTRALASIA.

1. Australia in General.
2. West Australia.
3. North Australia.
4. South Australia.
5. Queensland.
6. New South Wales.
7. Victoria.
8. New Guinea.
9. New Zealand.

VI. NORTH AMERICA.

1. Alaska.
2. British America.
 - a. Northern region.
 - b. Canada.
 - c. Labrador and Newfoundland.
3. United States.
4. Mexico.
5. Central America.
6. West Indies.

VII. SOUTH AMERICA.

1. General.
2. Colombia and Venezuela.
3. Guiana.
4. Ecuador.
5. Peru.
6. Bolivia.
7. Brazil.
8. Paraguay and Uruguay.
9. Chili.
10. Argentine Republic.
11. Patagonia.

VIII. POLAR REGIONS.

1. North Polar Region.
 - a. American.
 - b. European.
2. Greenland.
3. Iceland.
4. Spitzbergen.
5. Novaia Zemlia.
6. Franz Josef Land.
7. South Polar Region.

IX. OCEANS AND ISLANDS.

1. Atlantic Ocean.
2. Mediterranean Sea.
3. Indian Ocean.
4. Pacific Ocean.

X. MISCELLANEOUS.

1. Astronomical.
2. Magnetic.
3. Thermometric.
4. Meteorological.
5. Geological.
6. Botanical.

I. THE EARTH.

1. Cartographic Projections.

1. [Map-diagram to illustrate Sir J. F. W. Herschel's paper on a new projection of the sphere.] Size, 31.5 × 19.1 cm. J. xxx. 1860. P. 104.
2. [Map-diagram to illustrate Sir Henry James's communication on the projection used in the topographical department of the War Office for maps embracing large portions of the earth's surface.] Size, 38.4 × 19.2 cm. J. xxx. 1860. P. 106.
3. Diagram showing the application of table [of radii of parallels and degrees of longitude] to the projection of a portion of the surface of the earth (including Europe) north of the parallel of 30°. Scale, 15 deg. = in. Size, 12 × 13.8 cm. J. xxx. 1860. P. 111.
4. Chart of the world illustrating Gall's projection. Equatorial scale [ca. 4082 m. = in.]. Size, 16.2 × 11.1 cm. P. xv. 1870-71. P. 159.

2. The Earth in General.

5. Part of a terrestrial globe made at Nuremberg in 1492 by Martin Beham, in which it is supposed the islands are laid down in the same way as in the map used by Columbus in his first voyage. Scale [ca. 1770 m. = in.]. Size, 12 × 17.7 cm. J. xviii. 1848. Art. vi.
6. [Diagram representing the midsummer position of the earth, to illustrate a paper by W. E. Hickson on the climate of the north pole.] Size, ca. 10 × 10 cm. J. xxxv. 1865. P. 131.
7. Chart of the world illustrating Gall's projection. Equatorial scale [ca. 4082 m. = in.]. Size, 16.2 × 11.1 cm. P. xv. 1870-71. P. 159.
8. Approximate sketch of the geographical distribution of caoutchouc-yielding trees. By James Collins, F. B. S. Edin. Equatorial scale [ca. 1063 m. = in.]. Size, 47.4 × 15.4 cm. O. Hh. i. 1873. P. 67.
9. Chart showing the distribution of saltiness in the ocean. Equatorial scale [ca. 2560 m. = in.]. Size, 29.8 × 16.5 cm. J. xlvii. 1877. P. 73.
10. [Map of the world showing] lines of equal magnetic variation, or declination (isogonic lines). 1878. Scale [ca. 3170 m. = in.]. Size, 21.7 × 11.2 cm. P. xxii. 1877-78. Pl. 1. P. 216.
11. Terrestrial magnetic meridians, and curves of equal dip, or inclination (isoclinical lines). 1878. Size, ca. 19.5 × 11.5 cm. P. xxii. 1877-78. Pl. 2. P. 216.
12. The earth's magnetism, as shown by:
1. The distribution of lines upon the earth's surface passing through points of equal total force. (1878.)
 2. The position of the magnetic poles and the line of no dip, or the magnetic equator.
 3. The regions of blue and red magnetism. Size, ca. 22 × 13 cm. P. xxii. 1877-78. Pl. 3. P. 216.
13. Isochronic passage chart for travellers, showing the shortest number of days' journey from London by the quickest through routes, and using such further conveyances as are available without unreasonable cost. It is supposed that local preparations have been made and that other circumstances are favorable. By Francis Galton, F. R. S. Equatorial scale, [ca. 2900 m. = in.]. Size, 22.1 × 13.1 cm. Pp. iii. 1881. P. 704.

II. EUROPE.

1. General.

14. Proposed overland route to India. Scale, 325 m. = in. Size, 54.8 × 24.8 cm. O. Hh. i. 1873. P. 48.
15. A map showing the relation of Cyprus to the adjacent coasts. Scale [ca. 230 m. = in.]. Size, 15.1 × 11.5 cm. G. M. v. 1878. P. 221.

2. Great Britain.

16. Index to the Ordnance Survey of England and Wales. Scale, 1: 3,168,000 [50 m. = in.]. Size, 18.9 × 24.8 cm. P. iv. 1859-60. [No. 4.]
17. Map of Great Britain showing the distribution of Roman Catholics, and of Roman Catholic chapels, convents, and monasteries. By E. G. Ravenstein, F. R. S. Scale [ca. 45 m. = in.]. Size, 25.2 × 41.6 cm. London and environs. Scale [ca. 8 m. = in.]. Size, 7 × 6.8 cm. G. M. i. 1874. P. 104.

18. Census of British isles, 1871. Scale [ca. 64 m. = in.]. Size, 23.4 × 26.6 cm.

- Local element of population of counties and towns. P. 173.
- The Irish element in Great Britain and Irish-speaking population in Ireland. P. 176.
- Migration within the limits of England and Wales, Scotland, Ireland, and the islands in the British seas. P. 201.
- Migration compared with local element of population. P. 229.
- Increase or decrease of population, 1861-1871. P. 229.
- Increase or decrease of the natives of counties throughout the United Kingdom, 1861-1871. P. 231.
- Local element of population of entire counties. P. 231. G. M. iii. 1876. P. 173-231.

19. Map of the British isles, showing the state of the Ordnance Survey on the 31st Dec'r, 1875. Scale, [ca. 64 m. = in.]. Size, 23.4 × 26.6 cm. G. M. iii. 1876. P. 192.

3. Belgium and the Netherlands.

20. Nieuport and its surrounding country [West Flanders]. Scale, 1: 40,000 [3,333.33 ft. = in.]. Size, 39.6 × 24.9 cm. Battle of Nieuport [A.D. 1600]. Scale, 142 yds. = in. Size, 14.1 × 14.4 cm. O. Hh. i. 1873. P. 240.

21. [The siege of Ostend, A.D. 1601-1604.] Scale, 460 yds. = in. Size, 15.5 × 13.1 cm. O. Hh. i. 1873. P. 371.

4. France.

22. Sketch of the valley of Beaufort, and the adjacent portions of Upper Savoy. Scale, 4 m. = in. Size, 20 × 16.3 cm. J. xxv. 1855. P. 190.

5. Spain.

23. Columbretes rocks near the coast of Valencia, by Captain W. H. Smyth, R. N., K. S. F., F. R. S. Scale [3036 ft. = in.]. Size, 12.2 × 16.8 cm. J. [i.] 1830-31. Art. v.

6. Austria-Hungary.

24. Map to accompany notes on the lower course of the Danube, by Major J. Stokes, R. E. 1859. Scale, 15 m. = in. Size, 18.7 × 10.6 cm.
J. xxx. 1860. P. 162.

7. The Balkan Peninsula.

(Exclusive of Greece.)

25. The Gulf of Arta [Albania]. Surveyed in 1830. Drawn by Lieutenant James Wolfe, R. N. Var'n 14.16 W. Scale [ca. 3 m. = in.] Size, 23.7 × 24 cm. J. iii. 1833. Art. v.
26. Ruins of Limnæa [Greece]. Scale, *wanting*. Size, 8.9 × 9.2 cm. J. iii. 1833. Art. v.
27. Ruins at Camarina [Albania]. Scale, *wanting*. Size, 8.7 × 11 cm. J. iii. 1833. Art. v.
28. Argos Amphiloticum [Greece]. Scale, *wanting*. Size, 7.9 × 10.1 cm. J. iii. 1833. Art. v.
29. Map of Mount Athos, 1833. Scale [ca. 8 m. = in.]. Size, 12.2 × 19 cm. J. vii. 1837. P. 72.
30. The northern frontier of Greece, 1834. Scale, 11 m. = in. Size, 31.6 × 19.5 cm.

Enumeration of the line of landmarks [northern frontier of Greece]. Scale [11 m. = in.]. Size, 23.6 × 6.6 cm.
J. vii. 1837. P. 94.

31. Map of Albania by Count Fedor Karaczay, colonel in the Austrian service. 1842. Scale, 19.5 m. = in. Size, 24.5 × 34.9 cm.

J. xii. 1842. Pt. i. Art. iii.
32. Survey of the isthmus of Mount Athos, by the officers of H. M. S. Beacon. To illustrate a paper on the canal of Xerxes, by Lieutenant T. Spratt, R. N. Scale, 600 yds. = in. Size, 25.3 × 18 cm. J. xvii. 1847. Art. iv.

33. Map to illustrate a paper on the passes of the Balkan, or Mount Hæmus, by Lieutenant-General A. Jochmus. Scale, 11 m. = in. Size, 30 × 20 cm. J. xxiv. 1854. P. 36.

34. Sketch of the marches of Darius and Alexander to the Danube, and the passage of the Balkan, by Marshal Diebitch. 1847. Scale, 48 m. = in. Size, 11.8 × 20 cm. J. xxiv. 1854. P. 36.

35. Sketch of the communications between Selimné and Kazan [Balkan Mts.]. Scale, 13.5 m. = in. Size, ca. 8 × 4.5 cm. J. xxiv. 1854. P. 63.

36. Sketch of the country between Kustenjé and Chernavoda, showing the Kara-sú lakes; to illustrate a paper on the requirements necessary to render a water communication practicable. By Captain Spratt, R. N. Scale, ca. 5 m. = in. Size, 19.6 × 8.1 cm. J. xxvi. 1856. P. 203.

37. Map to accompany notes on the lower course of the Danube, by Major J. Stokes, R. E. 1859. Scale, 15 m. = in. Size, 18.7 × 10.6 cm.
J. xxx. 1860. P. 162.

38. Map of Epirus, to accompany the paper by Major R. Stuart. Scale, 12.33 m. = in. Size, 29.8 × 32.6 cm. J. xxxix. 1869. P. 276.

39. Geological map of eastern Turkey, by F. von Hochstetter. Scale, 1: 2,000,000 [31.57 m. = in.]. Size, 34.7 × 24 cm. O.H. i. 1873. P. 328.

40. Sketch of the seat of war [in Servia, Montenegro, etc.], illustrating the military operations during July, 1876. Scale, 1: 2,000,000 [31.57 m. = in.]. Size, 26.9 × 23.8 cm.
G. M. iii. 1876. P. 210.

41. [Maps of part of eastern Europe occupied by the Turks.] Turkey in Europe.

a. Muhammedans. Scale [ca. 79 m. = in.]. Size, 24.3 × 16.2 cm.

b. Political divisions. Scale [ca. 79 m. = in.]. Size, 24.3 × 16.2 cm.
c. Nationalities. According to Dr. Kiepert. Scale [ca. 79 m. = in.]. Size, 24.4 × 16.2 cm.
d. Density of population. Scale [ca. 79 m. = in.]. Size, 24.4 × 16.2 cm.
G. M. iii. 1876. P. 257.

42. A map of the seat of war in European Turkey. Chiefly from the Austrian map. Scale, 7 m. = in. Size, 55.7 × 50.7 cm.

G. M. iv. 1877. P. 251.

43. Proposed changes in the territorial boundaries of European Turkey. Map illustrating articles I., III., VI. of the preliminary treaty. Scale, 48 m. = in. Size, 43.2 × 31.7 cm.

G. M. v. 1878. P. 101.

44. Map to illustrate the Treaty of Berlin. Scale, 52 m. = in. Size, 41.7 × 54.3 cm.

a. Map of Armenia, to illustrate articles 58, 59, 60 of the Treaty of Berlin. Scale, 52 m. = in. Size, 17.8 × 17.2 cm.

b. A map showing the relation of Cyprus to the adjacent coasts. Scale [ca. 230 m. = in.]. Size, 15.1 × 11.5 cm.

G. M. v. 1878. P. 221.

8. Greece.

45. The northern frontier of Greece, 1834. Scale, 11 m. = in. Size, 31.6 × 19.5 cm.

Enumeration of the line of landmarks [northern frontier of Greece]. Scale [11 m. = in.]. Size, 23.6 × 6.6 cm.
J. vii. 1837. P. 94.

46. Minoa and Nisæa in the Gulf of Ægina, by Mr. T. A. B. Spratt of H. M. S. Beacon, 1837. Scale, 3648.5 ft. = in. Size, 19.9 × 16.4 cm.

J. viii. 1838. P. 208.

47. Santorin island, ancient Thera, surveyed by Captain Thomas Graves, F. R. G. S., H. M. S. Volage, 1848. Hydrographic Office, F. B. Archipelago. Scale [ca. 1267 yds. = in.]. Size, 34.7 × 42 cm. J. xx. 1851. Art. 1.

48. The islands of Milo, Anti-Milo, Kimolo, and Polino, surveyed by The Right Honorable Lord John Browne, under the direction of Captain Thomas Graves, H. M. S. Volage, 1849. Hydrographic Office, F. B. Archipelago. Scale, ca. 1.2 m. = in. Size, 55.9 × 35.3 cm. J. xxii. 1852. Art. xiv.

49. Remains and ruins of the ancient town of Melos (MHAOÏ). By Mr. G. R. Wilkinson, R. N., H. M. S. Volage. 1848. Scale, 650 ft. = in. Size, 18.3 × 12.7 cm.

Enlarged sketch of the catacombs. Scale, *wanting*. Size, 4.4 × 4.4 cm.

J. xxii. 1852. Art. xiv.

50. Movements of the Macedonian army at the taking of Thermus. Scale [ca. 4.8 m. = in.]. Size, 19.6 × 12.3 cm. J. xxvii. 1857. P. 1.

51. Sketch of the passage of the defile of Ménélaion by Philip of Macedonia. Scale, 355 yds. = in. Size, 12.3 × 19.6 cm. J. xxvii. 1857. P. 11.

52. Sketch of the expedition of the Gauls under Brennus against Thermopylæ and Callium. Scale [ca. 4.4 m. = in.]. Size, 19.5 × 12.4 cm. J. xxvii. 1857. P. 13.

53. Sketch of the battle of Marathon. Scale, 3200 yds. = in. Size, 12.3 × 18.8 cm. J. xxvii. 1857. P. 16.

54. Plan of Sellasia and military sketch of the environs and the field of battle. Scale, 390 yds. = in. Size, 19.5 × 32.3 cm. J. xxvii. 1857. P. 34.

55. Plans of several antiquities re-discovered in

Laconia and Cynuria in following the route of Pausanias from Thyreatis to Sparta.

- A. The temple of Jupiter Scotitas. Scale, 9.5 yds. = in. Size, 19 × 6.8 cm.
- B. The site of that temple in the oak forest of Scotita. Scale, 200 yds. = in. Size, 7.5 × 3.5 cm.
- C. The temple of Apollo at Thormax. Scale, 9.5 yds. = in. Size, 6.8 × 3.1 cm.
- E. View of the Trophy of Hercules (or tombs of Hippocoones and his sons). Scale, 9.5 yds. = in. Size, 13.1 × 7.1 cm.

J. xxvii. 1857. P. 43.

56. Military sketch of a part of Laconia and Cynuria, showing the sites of the antiquities and cities mentioned by Pausanias between the Hermæ and Sparta, and explaining the strategic movements of the ancients in that part of Greece. Scale, 3250 yds. = in. Size, 19.7 × 27.5 cm.

J. xxvii. 1857. P. 47.

9. Scandinavian Peninsula.

57. Map of the coasts of Norway and Lapland, to illustrate Lieutenant G. T. Temple's paper. Scale [ca. 92 m. = in.]. Size, 39.8 × 34.7 cm.

Pp. ii. 1880. P. 336.

10. Russia.

58. The Uralian mountains (from 51° to 60° N. Lat.). Compiled from various Russian MS. maps, as well as those of Humboldt, Helmersen, etc., by Roderick I. Murchison, V. P. R. S. . . . and John Arrowsmith, F. R. G. S. Scale, 35 m. = in. Size, 37 × 48.5 cm. J. xiii. 1843. Pt. ii. Art. v.

59. Map of the Sea of Azov, the Putrid sea, and the adjacent coasts, to illustrate a paper by Captain Sherard Osborn, R. N. 1857. Scale [ca. 35.4 m. = in.]. Size, 24.2 × 18.6 cm. J. xxvii. 1857. P. 133.

60. Map of Russian Lapland. Drawn from the original map made by Professor J. A. Friis by George T. Temple. Scale, 1 : 2,200,000 [34.72 m. = in.]. Size, 26.8 × 34 cm.

Pp. ii. 1880. P. 656.

II. Caucasia.

61. Part of Georgia and Armenia, to illustrate Colonel Monteith's journal. Scale [ca. 40 m. = in.]. Size, 35.2 × 33.5 cm. J. iii. 1833. Art. i.

62. Sketch map to illustrate Professor Abich's paper on the climatology of the Caucasus. Scale [ca. 240 m. = in.]. Size, 19.4 × 10.9 cm. J. xxi. 1851. Art. i.

63. Map of the seat of war in Asia. Scale, 1 : 750,000 [11.84 m. = in.]. Size, 56.1 × 38 cm. G. M. iv. 1877. P. 147.

III. ASIA.

1. General.

64. Sketch shewing the routes of Lieutenants Conolly and Burnes [in Central Asia]. Scale [ca. 187 m. = in.]. Size, 28.3 × 19.5 cm. J. iv. 1834. Art. viii. (Anal.).

65. Proposed overland route to India. Scale, 325 m. = in. Size, 54.8 × 24.8 cm. O. Hh. i. 1873. P. 48.

66. Map shewing the routes of the British India and of the Netherlands' India Steam Navigation Companies. Compiled by E. G. Ravenstein, F. R. G. S. Scale, 1 : 40,000,000 [631.31 m. = in.]. Size, 35.6 × 23.1 cm. O. Hh. i. 1873. P. 505.

67. Skeleton map to illustrate notices of ancient sea-route to China. Equatorial scale [ca. 1190 in. = in.]. Size, 18.3 × 10.7 cm. Pp. iv. 1882. P. 651.

2. Asiatic Turkey.

(Exclusive of the Red Sea Provinces.)

68. Part of Georgia and Armenia, to illustrate Colonel Monteith's journal. Scale [ca. 40 m. = in.]. Size, 35.2 × 33.5 cm. J. iii. 1833. Art. i.

69. Sketch of a route through part of Armenia and Asia Minor, by James Brant, Esq., H. M. Consul at Erzurum. 1836. Scale, 50 m. = in. Size, 29.9 × 20 cm. J. vi. 1836. P. 222.

70. Sketch of routes in Asia Minor, 1836. Scale, 48 m. = in. Size, 12.4 × 13.9 cm., and 12.4 × 5.5 cm. J. vii. 1837. P. 60.

71. Routes in Asia Minor, by W. G. [J.] Hamilton, Esq., in 1836. Scale [55.3 m. = in.]. Size, 26.1 × 19.3 cm. J. viii. 1838. P. 156.

72. Sketch of the Cilician and Syrian passes [Asia Minor]. 1838. Scale, 14 m. = in. Size, 11.7 × 15.9 cm. J. viii. 1838. P. 194.

73. Map to illustrate Major Rawlinson's route from Zohab to Khûzistan, in 1836. Scale, 50 m. = in. Size, 23.1 × 19.6 cm. J. ix. 1839. P. 116.

74. Part of Asia Minor, to illustrate the route of W. Ainsworth, Esq. [from Scutari to Vezir Köpri], 1839. Scale [45 m. = in.]. Size, 22.2 × 14.4 cm.

[Plan of Ereğli and neighbourhood.] Scale, 2700 ft. = in. Size, 7.2 × 6.4 cm. J. ix. 1839. P. 276.

75. Part of Arabia Petræa and Palestine. By Heinrich Berghaus, 1839. Scale, 13 m. = in. Size, 19 × 33.3 cm.

Plan of Sur. Scale, 700 yds. = in. Size, 6.4 × 6.4 cm. J. ix. 1839. P. 310.

76. The Tigris between Baghdad and Mósul. By Lieutenant J. [H.] B. Lynch, in. Navy, shewing also the routes of Messrs. Ross and Forbes. 1839. Scale, 37 m. = in. Size, 21.5 × 23.8 cm.

Ground plan of the city of Al Hadhr. Scale, wanting. Size (diam.), 7 × 7.1 cm. J. ix. 1839. P. 476.

77. Asia Minor and Armenia, to illustrate routes of Mr. Ainsworth, Mr. Brant, Mr. Suter, and Lord Pollington. 1840. Scale, [45 m. = in.]. Size, 41.6 × 26 cm. J. x. 1841. P. 489.

78. Map of central Kurdistan, to illustrate Mr. Ainsworth's visit to the Chaldeans in 1840. Scale, 15 m. = in. Size, 38.7 × 37.7 cm. J. xi. 1841. P. 21.

79. [Sketch showing the relation of the Nahrawân to the Tigris near Khan Nahrawân, Baghdad.] Scale, wanting. Size, 9.5 × 3 cm. J. xi. 1841. P. 123.

80. [Sketch showing the position of the ancient Sasanian fort of Kâdisiyâh, near Kâim, Baghdad.] Scale, wanting. Size, 9.5 × 3 cm. J. xi. 1841. P. 128.

81. [Plan of Till Waljâh, near Malwiyah, Baghdad.] Scale, 270 paces = in. Size, 8.5 × 6 cm. J. xi. 1841. P. 130.

82. [Plan of the Band on the 'Adhem, Jebal Hamrîn.] Scale, wanting. Size, 9 × 5.5 cm. J. xi. 1841. P. 132.

83. Topographical survey of the plain of Troy, by Captain Graves, T. A. B. Spratt, Esq., and other officers of the Royal Navy; with the ancient sites as determined on the spot, by Dr. P. W. Forchhammer. Drawn by John Arrowsmith. Scale, 2.25 m. = in. Size, 24.1 × 31.7 cm. J. xii. 1842. Pt. i. Art. ii.

84. Part of Caria and Lycia; by R. Hoskyn, Esq., Master of H. M. S. Beacon 1841-42, illustrative of his paper. Scale [ca. 9 m. = in.]. Size, 29.7 × 19.5 cm. J. xii. 1842. Pt. ii. Art. i.

85. Dr. Forbes' route from Mesh-hed to the Heri Rud, near Lake Zerreh. Protracted from his journal, by J. Arrowsmith, 1841. Scale, 42 m. = in. Size, 11.1 × 20.1 cm. J. xiv. 1844. Art. x.

86. [Sketch of the place where a Latin inscription at the River Lycus, in Cœle-Syria, was found, determining the position of the city of Abila.] Scale, wanting. Size, ca. 9.5 × 6 cm. J. xx. 1851. Art. ii.

87. Map to illustrate "Outlines of a journey in Palestine in 1852," by the Rev. Dr. E. Robinson. Scale [ca. 17 m. = in.]. Size, 19.5 × 33.8 cm. J. xxiv. 1854. P. i.

88. Map of Damascus, Hauran, Anti-Libanus, etc., to illustrate a memoir by the Rev. J. L. Porter, A.M. Scale [ca. 20 m. = in.]. Size, 18.3 × 19.3 cm. J. xxvi. 1856. P. 43.

89. Palestine. Map to illustrate Mr. Poole's journey to the Dead sea, 1856. Scale [ca. 12 m. = in.]. Size, 15.3 × 19.2 cm. J. xxvi. 1856. P. 55.

90. Map of Chaldæa, Susiana, etc., to illustrate journeys to several ancient remains; and also to the determination of the River Eulæus of the Greek historians. By William Kennett Loftus, Esq. 1856. Scale [ca. 39 m. = in.]. Size, 34.7 × 20 cm. J. xxvii. 1856. P. 131.

91. Map to illustrate explorations in the desert east of the Haurân, and in the ancient land of Bashan; by Cyril C. Graham, Esq. 1858. Scale, 19 m. = in. Size, 19.3 × 11.1 cm. J. xxviii. 1858. P. 226.

92. Map of Syria, etc.; shewing the routes of Dr. Charles T. Beke, 1861-62. Scale [ca. 21.5 m. = in.]. Size, 17.5 × 19.9 cm. J. xxxii. 1862. P. 76.

Traditional sites, etc. Scale [ca. 25 m. = in.]. Size, 3.7 × 5.1 cm. J. xxxii. 1862. P. 76.

93. Map of part of Kurdistan, illustrating the journeys and researches of Mr. Consul Taylor. Scale, 13 m. = in. Size, 39.3 × 31.3 cm. J. xxxv. 1865. P. 21.

94. Plan of the ruins of Arzen (Emporium Arzanenorum) [Kurdistan]. Scale, 800 paces = in. Size, ca. 10 × 9 cm. J. xxxv. 1865. P. 26.

95. Plan of Grot church (8 feet high), near Dibeneh [Kurdistan]. Scale, 20 ft. = in. Size, ca. 11 × 7 cm. J. xxxv. 1865. P. 38.

96. Plan of Hatem Tai castle (ancient Sisauronon) [Kurdistan]. Scale, wanting. Size, ca. 11 × 6.5 cm. J. xxxv. 1865. P. 52.

97. Map showing the levelling from the Mediterranean to the Dead sea, executed by Captain Wilson, R. E., under the direction of Sir Henry James, R. E., F. R. S., Director of the Ordnance Survey. Scale, 1.29 m. = in. Size, 91.9 × 33.1 cm. J. xxxvi. 1866. P. 201.

98. Trigonometrical survey of a part of Mesopotamia from Sheriat el Beytha (on the Tigris) to Tel Ibrahim, to accompany the paper by Lieutenant J. B. Bewsher. Scale, 4.43 m. = in. Size, 26 × 31.8 cm. J. xxxvii. 1867. P. 160.

Sketch map showing supposed positions of some places of historical interest. Scale, 20 m. = in. Size, 6.3 × 8.2 cm. J. xxxvii. 1867. P. 160.

99. Maps illustrating a tour in Armenia, Kurdistan, and upper Mesopotamia. By J. G. Taylor, H. M. consul for Kurdistan. Scale, 12.5 m. = in. Size, 43.8 × 29.7 cm. J. xxxviii. 1868. P. 281.

[Ras el Ain and Veyran Shehr to Diarbekr.] Scale, 12.5 m. = in. Size, 13.9 × 19.3 cm. J. xxxviii. 1868. P. 281.

100. The peninsula of Mount Sinai. A sketch from observations on the ground, by the Rev. F. W. Holland, M. A. London: Stanford's Geographical Establishment. 1868. Scale, 8 m. = in. Size, 41.3 × 40.7 cm. J. xxxix. 1869. P. 343.

101. Sketch map to accompany the paper by M. Rorit, on the identification of Mt. Théchés (of Xenophon). Scale, 15 m. = in. Size, 18.8 × 18 cm. J. xl. 1870. P. 463.

102. Route map of the Tulûl el Safâ, from observations taken in May, 1871, by R. F. Burton, F. R. G. S., and C. F. Tyrwhitt-Drake. Scale, 11.33 m. = in. Size, 21.2 × 16.9 cm. J. xlii. 1872. P. 49.

Plan of the cave at Umm Nirân [El Tellul]. Scale, 118 ft. = in. Size, 3.2 × 5.3 cm. J. xlii. 1872. P. 49.

103. Sketch map of the Anti-Libanus, from observations taken in 1871 by C. F. Tyrwhitt-Drake, F. R. G. S., to accompany Captain Burton's paper. Scale, 4.7 m. = in. Size, 20.5 × 31.9 cm. J. xlii. 1872. P. 408.

104. Original map of the country east of Smyrna, showing the railways to Kassaba and Aidin, principally from surveys by C. E. Austin, C. E. Drawn by E. G. Ravenstein, F. R. G. S. Scale, 1 : 500,000 [7.88 m. = in.]. Size, 44.4 × 30.9 cm. O. Hh. i. 1873. P. 8.

105. Physical map of Palestine, to accompany the paper by Major C. W. Wilson, R. E. Scale, 21.5 m. = in. Size, 21.6 × 33.2 cm. J. xliii. 1873. P. 207.

106. Map of the seat of war in Asia. Scale, 1 : 750,000 [11.84 m. = in.]. Size, 56.1 × 38 cm. G. M. iv. 1877. P. 147.

107. The administrative divisions of the Vilayet of the islands of the White sea [Ægean sea]. Scale, 48 m. = in. Size, 21.2 × 24.1 cm. [Map of Cyprus.] Scale [ca. 96 m. = in.]. Size, 5.3 × 3.5 cm. G. M. v. 1878. P. 165.

108. Map of Cyprus. 1878. Scale, 9 m. = in. Size, 41.5 × 25.2 cm. G. M. v. 1878. P. 201.

109. Map of Armenia, to illustrate articles 58, 59, 60 of the Treaty of Berlin. Scale, 52 m. = in. Size, 17.8 × 17.2 cm. G. M. v. 1878. P. 221.

110. A map showing the relation of Cyprus to the adjacent coasts. Scale [ca. 230 m. = in.]. Size, 15.1 × 11.5 cm. G. M. v. 1878. P. 221.

111. Map of the Land of Midian, constructed from reconnaissances and surveys made by officers of the Egyptian General Staff under the command of Captain R. F. Burton. 1878. Scale, 15.5 m. = in. Size, 33.2 × 45.8 cm. a. [Sketch of the Red sea and the adjacent coasts.] Scale [ca. 1100 m. = in.]. Size, 11.1 × 17.2 cm. b. Port Dumayghah. Lat. 26° 38' N. Scale [ca. 3800 ft. = in.]. Size, 11 × 14.2 cm. J. xlix. 1879. P. 1.

J. xlix. 1879. P. 1.

3. Arabia.

(Including the Turkish Red Sea Provinces.)

112. The Red sea, from the late surveys. 1835. Scale [ca. 195 m. = in.]. Size, 11.3 × 17.4 cm. J. v. 1835. P. 296.

113. Red sea, to illustrate Lieutenant Wel[sted's] papers. Scale [ca. 94 m. = in.]. Size, 12.7 × 18.8 cm. J. vi. 1836. P. 96.

114. Reduced sketch of native Indian chart [of part of the Red sea and Gulf of Aden], to illustrate the paper by Lieutenant A. Burnes, E. I. C. S. Scale [ca. 306 m. = in.]. Size, 17.4 × 5 cm.
J. vi. 1830. P. 113.

115. Sketch of a route to the ruins of Nakab al Hajar, on the southern coast of Arabia. Scale, 13.5 m. = in. Size, ca. 11 × 12 cm.
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116. Map of Oman in Arabia. Scale, 22.5 m. = in. Size, 40.6 × 39.3 cm.
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117. Sketch of the northern route from Mokhá to Sañá, by J. G. Hulton, M. D., and C. J. Crutten- den, Indian Navy. 1836. Scale, 31 m. = in. Size, 25 × 19.9 cm.
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118. Part of the south coast of Arabia. From a survey by Captain Haines, Indian Navy, and the officers of the *Palinurus*, 1839. Scale [118 m. = in.]. Size, 36.5 × 18.7 cm.
Plan of Aden. Scale, 2.5 m. = in. Size, 11.7 × 7.7 cm.
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119. Part of Arabia Petræa and Palestine. By Heinrich Berghaus, 1839. Scale, 13 m. = in. Size, 19 × 33.3 cm.
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J. ix. 1839. P. 310.

120. Sketch of the Kuria-Muria islands [Arabian coast], to illustrate Dr. Hulton's paper. Scale, 42.8 m. = in. Size, ca. 11.5 × 16 cm.
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121. Survey of part of the south east coast of Arabia by S. B. Haines, Commander, Indian Navy. Scale [ca. 45 m. = in.]. Size, 36.4 × 31.6 cm.
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122. Survey of part of the south east coast of Arabia, to illustrate Captain Saunders' paper. Scale [ca. 46 m. = in.]. Size, 36 × 31.1 cm.
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123. Map of the northern part of Arabia. Shew- ing the routes of Mr. G. A. Wallin. Scale [ca. 62 m. = in.]. Size, 23.3 × 18 cm.
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124. Map of the northern part of Arabia, shew- ing the routes of Mr. G. A. Wallin. Scale [ca. 74 m. = in.]. Size, 23.4 × 18 cm.
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125. Map of Arabia, shewing the routes of W. G. Palgrave, Esq., in 1862-63. Scale, 172.8 m. = in. Size, 23.6 × 17 cm.
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126. Map of part of Arabia, showing the route of Lieutenant-Colonel Pelly. Scale, 80 m. = in. Size, 23.6 × 18.9 cm.
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127. Map of the southern coast of Arabia, shew- ing the route of Captain S. B. Miles and Werner Munzinger in 1870. Scale, 30 m. = in. Size, 26.6 × 17.3 cm.
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128. [Sketch map of the countries bordering the southern portion of the Red sea and the Gulf of Aden, to show the districts producing myrrh.] Scale [ca. 186 m. = in.]. Size, 12 × 7.9 cm.
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129. Map of the vicinity of Aden, to accompany the paper by Captain G. J. Stevens. Scale, 3.8 m. = in. Size, 20.8 × 19.5 cm.
J. xliii. 1873. P. 295.

130. A map of south western Arabia. By E. G. Ravenstein, F. R. G. S. Scale, 1: 2,000,000 [31.57 m. = in.]. Size, 40.1 × 24.5 cm.
[Map of the peninsula and harbour of Aden and vicinity.] Scale, 18 m. = in. Size, 6.7 × 5.5 cm.
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131. Map of part of Yemen (Arabia) by Dr. C. Millingen. Scale, 18 m. = in. Size, 24.3 × 18.4 cm.
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132. Map of part of Yemen [Arabia] (from Nie- buhr), to accompany the paper by Dr. C. Millingen. Scale, 18 m. = in. Size, 23.9 × 18.5 cm.
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133. Map of northern and central Arabia, to illustrate Mr. Blunt's paper, 'A visit to Jebel Sham- mar.' Scale, 60 m. = in. Size, 25.8 × 21.7 cm.
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134. Sketch map of the Jebel Shammar, by W. S. Blunt, Esq. Scale, 26.5 m. = in. Size, 21.6 × 14.5 cm.
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135. Sketch [of the eastern shore of the Persian gulf and the southern shore of Baluchistan] to illustrate the memoir by Lieutenant G. B. Kempthorne, E. I. C. M. Scale [ca. 139 m. = in.]. Size, 24.7 × 10.8 cm.
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136. Kurdistan and part of Persia, to illustrate the routes of Lieutenant-Colonel Shiel, Major D'Arcy Todd, and Mr. T. Thomson. 1838. Scale, 64 m. = in. Size, 24.4 × 19.4 cm.
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137. Map to illustrate Major Rawlinson's route from Zohab to Khúzistan, in 1836. Scale, 50 m. = in. Size, 23.1 × 19.6 cm.
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138. Map of Major H. C. Rawlinson's route from Tabriz by Takhti Soleiman to Gilán; and to illus- trate his memoir on the Ecbatana of Atropatene. 1838. Scale, 54 m. = in. Size, 30.8 × 20.8 cm.
Ground plan of Takhti Soleiman, or the Ecbatana of Atro- patene. Scale, 640 yds. = in. Size, 8 × 6.6 cm.
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139. Map of central Kurdistan, to illustrate Mr. Ainsworth's visit to the Chaldeans in 1840. Scale, 15 m. = in. Size, 38.7 × 37.7 cm.
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140. Routes in Kirmán, Jebál, and Khorasan, to illustrate Sergeant Gibbons' journal. Scale, 73 m. = in. Size, 21 × 20 cm.
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141. Map to illustrate Baron C. A. de Bode's route from Kázrun to Shúshter, through the coun- tries of the Mamáseni, Khógilú, and Bakhtiyári tribes in 1841. Scale, ca. 25 m. = in. Size, 23.4 × 19.8 cm.
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142. Rough sketch of the River Kárún, to illus- trate Lieutenant Selby's paper. 1842. Scale, 19 m. = in. Size, 11.1 × 19.7 cm.
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143. Map to illustrate Mr. Layard's paper on Khúzistan. Scale, 51 m. = in. Size, 23.1 × 19.8 cm.
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144. Part of the Jeráhi river [Khúzistan] with its canals. Scale [ca. 3.6 m. = in.]. Size, 12.2 × 20.4 cm.
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145. Map to illustrate geographical notes taken during a journey in Persia in 1849 and 1850; by Keith E. Abbott, Esq., H. M. Consul at Tehrán. Scale, 44 m. = in. Size, 26.3 × 19.6 cm.
Mr. Abbott's route from Tehrán to Kám. Scale [ca. 55 m. = in.]. Size, 6.8 × 5.4 cm.
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146. Map to illustrate notes on routes from Bushire to Shiráz, by Lieutenant-General Monteith; and from Shiráz to Dáráb and thence to Kazerún, by Consul Keith E. Abbott, 1850. Scale, 30 m. = in. Size, 24.6 × 19.8 cm.
J. xxvii. 1857. P. 108.

147. [Map to illustrate Mr. Loftus's paper, "On the determination of the River 'Eulæus' of the

Greek historians." Scale [ca. 30 m. = in.]. Size, 14.3 × 10.3 cm. J. xxvii. 1857. P. 121.

148. [Plan showing the bifurcation of the Kerkhah river near Háviza, Khúzistan.] Scale [ca. 5 m. = in.]. Size, ca. 11 × 5 cm. J. xxvii. 1857. P. 130.

149. Persia. Map to illustrate routes from Teheran to Herat, and from Teheran to Bushire, by Captain Claude Clerk. Scale, 71 m. = in. Size, 28.8 × 20 cm. J. xxxi. 1861. P. 64.

150. Map of the island of Kishm, to accompany the paper by Lieutenant-Colonel Lewis Pelly. Scale, 9.6 m. = in. Size, 18 × 11 cm. J. xxiv. 1864. P. 251.

151. Sketch map of Beluchistan and eastern Persia, to accompany the papers by Colonel F. J. Goldsmid, C. B., and J. W. Barns, Esq., C. E. Scale, 100 m. = in. Size, 33.7 × 19.6 cm. J. xxxvii. 1867. P. 269.

152. Map of eastern Persia, to illustrate the paper by Major-General Sir F. J. Goldsmid. Scale, 50 m. = in. Size, 23.5 × 34.7 cm. J. xliiii. 1873. P. 65.

153. Map of Seistan, to accompany the paper by Major-General Sir H. C. Rawlinson. Scale, 21 m. = in. Size, 23.5 × 19.2 cm. J. xliiii. 1873. P. 273.

154. Map shewing the position of Hormúz island with reference to the Persian coast, and the other old European settlements in the vicinity. From actual survey by A. W. Stiffe, late Lieutenant R. N. Scale, 2.25 m. = in. Size, 21.1 × 25.1 cm. G. M. i. 1874. P. 12.

155. Bird's-eye view of Hormúz, from "Astley's" collection. — Island of Hormúz or Ormus. Scale [ca. 1.1 m. = in.]. Size, 22.8 × 14 cm. G. M. i. 1874. P. 12.

156. North end of Hormúz island, shewing site of ancient towns, etc. Scale, 1000 ft. = in. Size, 23.9 × 25.3 cm. G. M. i. 1874. P. 12.

157. Map of portions of Persia and Turkistan, shewing the routes of Colonel V. Baker and Lieutenant W. J. Gill. Scale, 1: 2,000,000 [31.57 m. = in.]. Size, 42.1 × 22.4 cm. G. M. i. 1874. P. 272.

[Enlarged map of the Atrek and tributaries from Shahabad to Sison.] Scale, 13 m. = in. Size, 10.1 × 4.4 cm. G. M. i. 1874. P. 272.

158. A map of the northern frontier of Khorassan, with parts of Irak and Mazandarán, to illustrate reports by Captain the Hon. G. Napier, on special duty in Persia. Reduced from the Royal Geographical Society of London from the original prepared by order of Her Majesty's Secretary of State for India. 1876. Scale, 16 m. = in. Size, 67.1 × 41.2 cm. J. xlvi. 1876. P. 63.

159. Route map from Jask to Bampur, to accompany the paper by Mr. E. A. Floyer. Scale, 25 m. = in. Size, 19.3 × 23.5 cm. J. xlvii. 1877. P. 189.

160. Map of Khorasan, and neighbouring countries, illustrating the paper by Lieutenant-Colonel C. E. Stewart, 5th Punjab Infantry. Compiled from Lieutenant-Colonel Stewart's survey, from maps by Major the Honorable G. Napier, Major-General J. T. Walker, Surveyor-General of India, and the Russian Topographical Department, 1881. Scale, 23 m. = in. Size, 82.7 × 62.5 cm. Pp. iii. 1881. P. 576.

161. The boundary between Russian and Persian territory. Reduced from a map furnished by the Russian Minister in Teheran to the Persian Government, December, 1881. Scale, 1: 2,100,000 [33.24 m. = in.]. Size, 18.1 × 10.2 cm. Pp. iv. 1882. P. 214.

162. A map of a route along the Alburz mountains between Tehran, Astrábád, and Shahrúd, from plane table surveys executed in 1881 and 1882, by

Lieutenant-Colonel Beresford Lovett, R. E. Scale, 8 m. = in. Size, 71.6 × 30.6 cm. Pp. v. 1883. P. 120.

163. Routes in south western Persia, surveyed in the years 1881 and 1882 by Captain H. L. Wells, R. E. Scale, 8 m. = in. Size, 58.5 × 53 cm., and 65 × 53 cm.

a. Sketch of obstruction to navigation of Karun river at Ahwaz. Scale, 250 yds. = in. Size, 22.5 × 21.5 cm.

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164. Sketch map of the River Mand or Kara-Aghatch, [Farsistan]. Scale, 32 m. = in. Size, 19 × 10.8 cm. Pp. v. 1883. P. 713.

165. Sketch [of Turkestan and surrounding regions], to illustrate the paper by E. Stirling, Esq., 1835. Scale [ca. 2.45 m. = in.]. Size, 15.4 × 17.6 cm. J. v. 1835. P. 304.

166. Survey of the Sea of Aral by Commander A. Butakoff, Imperial Russian Navy, 1848 and 1849. Scale [ca. 52 m. = in.]. Size, 11.7 × 18.9 cm. J. xxiii. 1853. Art. iv.

167. Two sections of the map of George Ludwig von ——— [embracing parts of Caçhmír and Kafiristan]. Reduced to one fourth. (From a tracing sent to the Society by M. de Khanikof.) Scale [ca. 13 m. = in.]. Size, 21.9 × 19.9 cm. P. x. 1865-66. [P. 311.]

168. Summer route from Leh (Ladak) to the city of Yarkund. From Leh to the Karakoram pass compiled from the records of G. T. Survey of India; from the Karakoram to Yarkund, from the journal of Moonshee Mahamad-i-Hamid, by Captain T. G. Montgomerie, R. E. Scale, 42.5 m. = in. Size, 11.9 × 18.9 cm. J. xxxvi. 1866. P. 157.

169. The Belor mountains and upper sources of the Amu-Daria; explanatory map to article on the Pamir, by M. Veniukof. (Translated from the map in the journal of the Imp. Geographical Society of St. Petersburg, 1861.) Scale, 35 m. = in. Size, 35 × 38.6 cm. J. xxxvi. 1866. P. 249.

170. Map of the delta and mouths of the Amu-Daria, from a sketch map by Admiral A. Boutakoff (Russian Navy). Scale, 17 m. = in. Size, 23.6 × 19.7 cm. J. xxxvii. 1867. P. 152.

171. Map to accompany paper on the Bolor highlands, by M. Veniukof. Scale, 55 m. = in. Size, 17.5 × 19.1 cm. P. xiii. 1868-69. [P. 343.]

172. Central Asia. Map to illustrate the expedition of Mr. A. Fedchenko to the Zarafshan valley, in 1869. Scale, 18 m. = in. Size, 23.4 × 16.1 cm. J. xl. 1870. P. 448.

173. Sketch map of the trans-Indus countries, including Gilgit, Dilail, Yassin, etc., by Geo. J. W. Hayward. Scale, 16.66 m. = in. Size, 31.9 × 26.2 cm. J. xli. 1871. P. 1.

174. Map of the route from Badakshan across the Pamir-steppe to Kashgar, with the southern branch of the upper Oxus, from the survey made by the Mirza in 1868-69; to accompany the paper by Major T. G. Montgomerie, R. E., F. R. G. S. Scale, 33 m. = in. Size, 39.8 × 25.4 cm. J. xli. 1871. P. 132.

175. Map showing route from Peshawar, through Chitral to Faizabad in Badakshan, from the exploration made by a sapper havildar during 1870, to accompany the paper by Major T. G. Montgomerie, R. E., F. R. G. S. Scale, 16 m. = in. Size, 18.9 × 38.2 cm. J. xlii. 1872. P. 180.

176. [Chinese map of the Upper Oxus.]

No. 1. Extract from the Chinese map as it is. [Shaded to indicate] the portion in which derangement has occurred. Scale [ca. 138 m. = in.]. Size, 14.7 × 9.8 cm.

- No. 2. Larger extract from the Chinese map. [Shaded to show] the deranged portion adjusted. Scale [ca. 138 m. = in.]. Size, 28.6 × 16.2 cm.
- No. 3. Map according to modern data, showing the places represented in the Chinese map. Scale [ca. 138 m. = in.]. Size, 14.7 × 13.5 cm. J. xliii. 1872. P. 438.
177. Photographic reduction of a Chinese map of the upper Oxus region, with autograph transcriptions by Julius Klaproth, to whom it belonged. Scale [ca. 57 m. = in.]. Size, 46.3 × 34.7 cm. J. xliii. 1872. P. 438.
178. Central Asia, western part [showing the routes from India to East Turkestan]. Scale [ca. 120 m. = in.]. Size, 30.7 × 22.1 cm. O. H. ii. No. 5. 1872. P. 140.
179. Map of Maghian [Zarafshan], by M. Fedchenko. Scale, 6.77 m. = in. Size, 26.8 × 19.1 cm. J. xliiii. 1873. P. 263.
180. Map of the country of the upper Oxus. Scale, 50 m. = in. Size, 31.4 × 21 cm. O. H. ii. No. 12. 1873. P. 374.
181. Map illustrating a paper on the region between the Caspian sea and the River Oxus. Compiled by E. G. Ravenstein, F. R. G. S. Scale, 1 : 9,000,000 [142.04 m. = in.]. Size, 15.7 × 24.4 cm. O. H. i. 1873. P. 1.
182. The country between Krasnovodsk and Khiva, shewing the routes reconnoitred in 1871 by Captain Skobelev, compiled by E. G. Ravenstein, F. R. G. S. Scale, 1 : 3,000,000 [47.35 m. = in.]. Size, 24.2 × 15.9 cm. O. H. i. 1873. P. 5.
183. Map of Kokand, and the upper Syr Daria. Compiled by A. P. Fedchenko, in 1872. Scale, 1 : 2,715,000 [42.85 m. = in.]. Size, 43.8 × 29.6 cm. O. H. i. 1873. P. 198.
184. Map of the Pamir steppe and neighbouring districts; to illustrate the letters of Colonel Gordon and members of the Kashgar mission. Scale [ca. 50 m. = in.]. Size, 11 × 17.9 cm. P. xviii. 1873-74. P. 429.
185. [Sketch map of the Russian province of Amu Daria.] Scale, 163 m. = in. Size, 7.8 × 23.1 cm. G. M. i. 1874. P. 56.
186. Sketch map of the frontier districts of Kashgar and Russia. By E. G. Ravenstein. Scale, 1 : 6,000,000 [94.7 m. = in.]. Size, 25.6 × 17.6 cm. G. M. i. 1874. P. 194.
187. Map of portions of Persia and Turkistan, shewing the routes of Colonel V. Baker and Lieutenant W. J. Gill. Scale, 1 : 2,000,000 [31.57 m. = in.]. Size, 42.1 × 22.4 cm.
- [Enlarged map of the Atrék and tributaries from Shahabad to Sison.] Scale, 13 m. = in. Size, 10.1 × 4.4 cm. G. M. i. 1874. P. 272.
188. Khanate of Khiva, after Russian sources by Major Herbert Wood, R. E. Scale, 9 m. = in. Size, 74.6 × 60.9 cm. J. xlv. 1875. P. 367.
189. Mouths and lower courses of Amú [Turkestan]. (17th century and subsequently.) Scale [ca. 30 m. = in.]. Size, 10.7 × 9.1 cm. J. xlv. 1875. P. 368.
190. Lower courses of Amú Darya [Turkestan] 1848-59 (after Boutakoff). Scale [ca. 30 m. = in.]. Size, 10.7 × 9.1 cm. J. xlv. 1875. P. 368.
191. Plan of whirlpools [near the junction of the Kuldun with the Ulkun branch of the Amú]. Scale, 120 ft. = in. Size, ca. 6 × 5 cm. J. xlv. 1875. P. 372.
192. Kichkine mouth of Ulkun Darya. Scale [ca. 600 ft. = in.]. Size, ca. 4.5 × 4.5 cm. J. xlv. 1875. P. 372.
193. Lake Aral, after Admiral Boutakoff. Scale [ca. 48 m. = in.]. Size, 10.9 × 16.7 cm. J. xlv. 1875. P. 401.
194. [Sketch of the region south of Lake Aral.] Survey of 1873. Scale [ca. 38 m. = in.]. Size, 11.9 × 9.9 cm. J. xlv. 1875. P. 406.
195. Central Asia, constructed from the latest English and Russian documents, adapted to recent astronomical observations; by J. Arrowsmith. 1872. Scale, 102 m. = in. Size, 48.5 × 32.9 cm. J. xlv. 1875. P. 420.
196. Skeleton map of the countries between Kashmir and Panjkorah, including Chilas, Kandia, and other districts of Dardistan. Compiled from the maps and researches of Lieutenant D. G. Robinson, Captain H. G. Raverty, H. W. Bellew, Colonel H. C. Johnstone, G. J. W. Hayward, Colonel H. L. Thuillier, Colonel J. T. Walker, Major T. G. Montgomerie; itineraries collected by Dr. G. W. Leitner, and other sources, by E. G. Ravenstein, F. R. G. S. June, 1875. Scale, 1 : 500,000 [7.88 m. = in.]. Size, 61.9 × 40.8 cm. G. M. ii. 1875. P. 232.
197. Map of part of central Asia, showing the routes of the Russian Hissar expedition, the Havildar, and the Mullah, 1874-75. Principally from the last edition of Colonel Walker's map of central Asia by E. G. Ravenstein, F. R. G. S. Scale, 1 : 2,000,000 [31.57 m. = in.]. Size, 35.6 × 26.6 cm. G. M. ii. 1875. P. 336.
198. Map of Khokand (Ferghana). Scale, 1 : 1,500,000 [23.67 m. = in.]. Size, 31.1 × 24.7 cm. G. M. iii. 1876. P. 85.
199. Map of Hissar and Kulab [Buchara]. Based upon the astronomical positions determined by Schwarz and the surveys of Lieutenant Vishnevski, members of the expedition commanded by Major Mayeff, 1875. Scale, 13.5 m. = in. Size, 46.1 × 30.4 cm. G. M. iii. 1876. P. 329.
200. Map of central Asia, to accompany the paper by Captain H. Trotter, R. E., on the geographical results of Sir T. D. Forsyth's mission to Kashghar, 1873-74. Scale, 1 : 2,000,000 [31.6 m. = in.]. Size, 51.4 × 45.6 cm. J. xlvi. 1878. P. 173.
201. The Hindu Kush, and passes between the Kabul and Oxus. Scale, 24 m. = in. Size, 44.4 × 28.9 cm. Pp. i. 1879. P. 160.
202. Map of the Turcoman steppe and northern Khorassan, to illustrate Sir H. Rawlinson's paper, 'The road to Merv.' Scale, 70 m. = in. Size, 24 × 21.2 cm. Pp. i. 1879. P. 224.
203. Map of Kafiristan [to illustrate a paper by Colonel H. C. Tanner.] Scale, 15 m. = in. Size, 28.9 × 20.2 cm. Pp. iii. 1881. P. 320.
204. Map of Khorasan, and neighbouring countries, illustrating the paper by Lieutenant-Colonel C. E. Stewart, 5th Punjab Infantry. Compiled from Lieutenant-Colonel Stewart's survey, from maps by Major the Honourable G. Napier, Major-General J. T. Walker, Surveyor-General of India, and the Russian Topographical Department, 1881. Scale, 23 m. = in. Size, 82.7 × 62.5 cm. Pp. iii. 1881. P. 576.
205. The boundary between Russian and Persian territory. Reduced from a map furnished by the Russian Minister in Teheran to the Persian Government, December, 1881. Scale, 1 : 2,100,000 [33.24 m. = in.]. Size 18.1 × 10.2 cm. Pp. iv. 1882. P. 214.
206. Route map of a journey in the province of Darwaz (Bokhara), from a sketch by A. Regel, 1881. Scale, 30 m. = in. Size, 19 × 10.6 cm. Pp. iv. 1882. P. 413.
207. The Tejend oasis and roads to Merv. Compiled from the latest surveys and information by Colonel Baron Aminof. Scale, 26.4 m. = in. Size, 24.8 × 19.2 cm. Pp. v. 1883. P. 56

208. Sketch map of the country between the Hari Rud and Murghab river. Scale, 35 m. = in. Size, 10.9 × 19.1 cm. Pp. v. 1883. [P. 56.]

209. Part of Central Asia, showing the territory between the Zarafshan and Amu-Daria rivers. Chiefly compiled from the latest Russian documents, to illustrate Mr. Delmar Morgan's paper. Scale, 13.8 m. = in. Size, 67.3 + 42.8 cm. S. P. i. Pt. 2. 1884. P. 338.

6. Afghanistan and Baluchistan.

210. Sketch [of the eastern shore of the Persian gulf and the southern shore of Baluchistan] to illustrate the memoir by Lieutenant G. B. Kempthorne, E. I. C. M. Scale, [ca. 139 m. = in.]. Size, 24.7 × 10.8 cm. J. v. 1835. P. 284.

211. Sketch of routes in Kach'hīh Gandāvā, to illustrate a paper communicated by Captain Postans, A. P. A. 1841. Scale, 28 m. = in. Size, 11.3 × 18.5 cm. J. xiv. 1844. Art. xi.

212. Map showing recent acquisitions to the geography of the districts bordering the British trans-Indus frontier between Peshawur and Dera Ishmael Khan. Compiled under the superintendence of Major J. T. Walker, F. R. G. S., Superintendent G. T. Survey. Scale, 30 m. = in. Size, 23.9 × 19.3 cm. J. xxxvii. 1862. P. 303.

213. Map of the coast from Kurrachee to Gwadur, showing the route traversed by Major Goldsmid and party. Scale, 15 m. = in. Size, 54.4 × 16.6 cm. J. xxxiii. 1863. P. 181.

214. Sketch map of Beluchistan and eastern Persia, to accompany the papers by Colonel F. J. Goldsmid, C. B., and J. W. Barnes, Esq., C. E. Scale, 100 m. = in. Size, 33.7 × 19.6 cm. J. xxxvii. 1867. P. 269.

215. Map of Seistan, to accompany the paper by Major-General Sir H. C. Rawlinson. Scale, 21 m. = in. Size, 23.5 × 19.2 cm. J. xliiii. 1873. P. 273.

216. Map of a portion of Afghanistan. From surveys made before the evacuation of Candhar and Cabul. By Lieutenant William Fraser Tytler, Deputy Assistant Quartermaster-General. Scale, 26 m. = in. Size, 48.4 × 29.9 cm. G. M. i. 1874. P. 1.

217. Map of the north-west frontier of India and eastern Afghanistan. Scale, 34 m. = in. Size, 30.5 × 37.2 cm. G. M. v. 1878. P. 256.

218. The Kaibar, Karkatcha, and Kurram passes. Scale, 16 m. = in. Size, 44.4 × 24.5 cm. G. M. v. 1878. P. 277.

219. The Bolan, the Mula, and other passes. Scale, 15 m. = in. Size, 16.1 × 27.2 cm. G. M. v. 1878. P. 304.

220. The Sulimani mountains on the Afghan frontier of British India. Based on Major Wilson's map, collated with other authorities. Scale, 24 m. = in. Size, 42.4 × 53.2 cm. Pp. i.-1879. P. 80.

221. The Hindu Kush, and passes between the Kabul and Oxus. Scale, 24 m. = in. Size, 44.4 × 28.9 cm. Pp. i. 1879. P. 160.

222. Sketch map of a portion of the march of the Tal-Chótiáli field-force from Kandahar to India in the spring of 1879. Compiled from personal observation and from information obtained by Lieutenant R. C. Temple, B. S. C. Scale, 8 m. = in. Size, 72.7 × 31.8 cm. J. xlix. 1879. P. 191.

223. The Helmund river [Afghanistan]. Scale, 24 m. = in. Size, 33.3 × 40.8 cm. Pp. i. 1879. P. 224.

224. Map of the Pishin valley and upper basin of the Lora, constructed from the surveys and reconnaissances executed by officers attached to the

forces serving in southern Afghanistan, 1879, collated with Major Wilson's map by W. J. Turner. Scale, 1: 506,880 [8 m. = in.]. Size, 41.9 × 29.6 cm. Pp. ii. 1880. P. 272.

225. Map of the country between Sind and Candahar, showing the course of the proposed railway, constructed from the recent surveys executed by officers attached to the forces serving in southern Afghanistan, collated with the most authentic material, by W. J. Turner. Scale, 1: 1,520,640 [24 m. = in.]. Size, 37.2 × 32.4 cm. Pp. ii. 1880. P. 656 [592].

226. Sketch map of the country between the Hari Rud and Murghab river. Scale, 35 m. = in. Size, 10.9 × 19.1 cm. Pp. v. 1883. P. 56.

7. India.

227. Mouths of the Ganges, to illustrate account of the Cossyah country. Scale [ca. 35 m. = in.]. Size, 19.9 × 19 cm. J. ii. [1832.] Art. vii.

228. A map of the Indus and Punjab rivers from the sea to Lahore. By Lieutenant Burnes, Ast. Resident at Cutch. Scale, 47 m. = in. Size, 31.6 × 46.3 cm. J. iii. 1833. Art. ix.

229. Sketch to illustrate paper on Cochīn. Scale [ca. 31 m. = in.]. Size, 20.9 × 19.1 cm.

Cochin harbour. Scale [ca. 1.8 m. = in.]. Size, 7.8 × 9.9 cm.

J. iii. 1833. Art. ii. (Misc.).

230. The Paumbum passage, Gulf of Manaar. 1830. Scale, 3700 ft. = in. Size, 27 × 19.9 cm.

[Sketch of southern India and Ceylon, to show the position of the Paumbum passage.] Scale [ca. 73 m. = in.]. Size, 11 × 4.8 cm.

J. iv. 1834. Art. i.

231. Sketch of part of the Himma-leh mountains, to illustrate the paper by Captain Johnson. Scale [ca. 19 m. = in.]. Size, 16.3 × 19.3 cm.

J. iv. 1834. Art. iii.

232. A map of the Indus and Punjab rivers with the southern portion of Rajpootana, by Lieutenant Burnes, of the Bombay Army. Scale, 46 m. = in. Size, 31.7 × 36.1 cm. J. iv. 1834. [Art. v.]

233. Kashmir and the northern part of the Panjáb, by Baron Charles Hügel, 1836. Scale, 53 m. = in. Size, 19.2 × 12.9 cm. J. vi. 1836. P. 349.

234. The Gulf of Cambay. Scale [ca. 13 m. = in.]. Size, 11.8 × 20 cm. J. viii. 1838. P. 196.

235. Sketch of the delta of the Indus, by Lieutenant T. G. Carless, I. N. 1837. Scale, 21 m. = in. Size, 19.7 × 19.2 cm. J. viii. 1838. P. 366.

236. Sketch map of Sikhim and the Nipalese frontier, to illustrate Dr. Hooker's paper. Constructed by Augustus Petermann, F. R. G. S. Scale, 1: 890,000 [14 m. = in.]. Size, 22.7 × 19 cm. J. xx. 1851. Art. iii.

237. Part of the Himalaya mountains, to illustrate Captain Strachey's paper. 1851. Scale, 32.5 m. = in. Size, 27.9 × 19.6 cm. J. xxi. 1851. Art. vii.

238. Map of west Nari, with the adjoining provinces of the Indian Himalaya; to illustrate Captain H. Strachey's memoir on the physical geography of western Tibet. Scale, 50 m. = in. Size, 33.8 × 33.8 cm. J. xxiii. 1853. Art. i.

239. Map to illustrate Colonel A. S. Waugh's paper on Mt. Everest and Deodanga. Scale, 32 m. = in. Size, 27.9 × 19.1 cm. P. ii. 1857-58. [P. 103.]

240. Map of the valley of Kashmir; from surveys made by Captain T. G. Montgomerie, under the direction of the Surveyor-General of India; to

illustrate the notes of Captain Godwin Austen and William Purdon, Esq.; to which is added a sketch of the surrounding countries. Scale (of the survey map), 15 m. = in. Size (of the survey map), 21.7 × 20 cm.

[Sketch map of the surrounding countries.] Scale, 67 m. = in. Size, 11.8 × 12.9 cm.

J. xxxi. 1861. P. 14.

241. Map showing recent acquisitions to the geography of the districts bordering the British trans-Indus frontier between Peshawur and Dera Ishmael Khan. Compiled under the superintendence of Major J. T. Walker, F. R. G. S., Superintendent G. T. Survey. Scale, 30 m. = in. Size, 23.9 × 19.3 cm.

242. Sketch map of the glaciers of the Mustakh range (Trans-Indus) and valley of Skardo, etc. Surveyed by Captain H. H. Godwin-Austen. Scale, 8 m. = in. Size, 33.5 × 24.2 cm.

J. xxxiv. 1864. P. 19.

243. Sketch map of the basin of the Mahanuddy (Central India), to accompany the paper by R. Temple, Esq. Scale, 40 m. = in. Size, 35.3 × 18.9 cm.

J. xxxv. 1865. P. 70.

244. Two sections of the map of George Ludwig von ——— [embracing parts of Caçhmir and Kafiristan]. Reduced to one fourth. (From a tracing sent to the Society by M. de Khanikof.) Scale [ca. 13 m. = in.]. Size, 21.9 × 19.9 cm.

P. x. 1865-66. [P. 311.]

245. Summer route from Leh (Ladak) to the city of Yarkund. From Leh to the Karakoram pass compiled from the records of G. T. Survey of India; from the Karakoram to Yarkund, from the journal of Moonshee Mahamad-i-Hamid, by Captain T. G. Montgomerie, R. E. Scale, 42.5 m. = in. Size, 11.9 × 18.9 cm.

J. xxxvi. 1866. P. 157.

246. The hill districts in the Madras presidency, to accompany Mr. C. R. Markham's paper. Scale, 18.5 m. = in. Size, 29.6 × 47.9 cm.

J. xxxvi. 1866. P. 181.

247. Map of a portion of the Travancore coast and back waters, showing the anchorage at Alipee, to accompany Mr. C. R. Markham's paper. Scale, 492 m. = in. Size, 12 × 19.7 cm.

J. xxxvi. 1866. P. 195.

248. The Wurunkall barrier [Travancore], to accompany Mr. C. R. Markham's paper. Scale, 10 m. = in. Size, 12.1 × 19.6 cm.

J. xxxvi. 1866. P. 197.

249. Map of the country between Leh and Ilchi, showing the routes taken by Mr. Johnson, civil assistant G. T. Survey, in 1865. Scale, 31 m. = in. Size, 25 × 23.2 cm.

J. xxxvii. 1867. P. 1.

250. Map of the delta of the Indus, to accompany the paper by Colonel C. W. Tremenhcere, C. B., R. E. Scale, 13.5 m. = in. Size, 24.3 × 26 cm.

J. xxxvii. 1867. P. 68.

251. [Diagram illustrating the manner in which beach material is swept along a coast; from H. de la Beche: "Geological observer," fig. 54; to illustrate Colonel C. W. Tremenhcere's paper on the lower portion of the Indus.] Scale, *wanting*. Size, ca. 6 × 5 cm.

J. xxxvii. 1867. P. 79.

252. Sketch map of north eastern India, with portions of Burmah and China, to accompany the paper by General Sir Arthur Cotton, R. E. Scale, 97 m. = in. Size, 45.5 × 19.4 cm.

The frontiers of Assam, Burmah, and China on an enlarged scale. 50 m. = in. Size, 17 × 10.7 cm.

J. xxxvii. 1867. P. 231.

253. Map showing the route survey from Nepal to Lhasa, and thence through the upper valley of

the Brahmaputra. Made by Pundit ——— from the map compiled by Captain T. G. Montgomerie, R. E. Scale, 32 m. = in. Size, 57.9 × 27.9 cm.

Continuation of map northwest of Gartokh, from the Pundit's journey of 1867. Scale [32 m. = in.]. Size, 14.6 × 7.9 cm.

J. xxxviii. 1868. P. 129.

254. Map of Coorg [Mysore, India], to accompany the paper by George Bidie, M. B. Scale, 11 m. = in. Size, 17.5 × 19 cm.

J. xxxix. 1869. P. 77.

255. Sketch map of eastern Turkistan, showing the hydrography of the Pamir to the east, the true courses of the Yarkand and Karakash rivers, with all the routes from Ladak across the Karakoram and adjacent ranges. As drawn by the author, Geo. J. W. Hayward. Scale, 32 m. = in. Size, 31.7 × 39.5 cm.

J. xl. 1870. P. 33.

256. Map to illustrate Sir H. Bartle E. Frere's notes on the Runn of Cutch, etc. Scale, 147 m. = in. Size, 19.3 × 23.7 cm.

J. xl. 1870. P. 181.

257. Rough sketch of the "Dunds" or lakes connected with the eastern Narra, from 40 to 80 miles northwest of Oomercote [Scinde]. Scale, 9 m. = in. Size, ca. 10 × 12 cm.

J. xl. 1870. P. 190.

258. A map to illustrate Captain Harcourt's paper on the Himalayan valleys of Kooloo, Lahoul, and Spiti, with a sketch map of the passes from India to eastern Turkistan.

a. The Himalayan valleys of Kooloo, Lahoul, and Spiti. Scale, 16 m. = in. Size, 18.7 × 20.3 cm.

b. The passes from India to eastern Turkistan. Scale, 73 m. = in. Size, 16.4 × 20.2 cm.

J. xli. 1871. P. 245.

259. Map showing the route from Assam over the Patkoi range into Hookeong, to illustrate the paper by H. L. Jenkins, Esq. Scale, 46 m. = in. Size, 22 × 17.5 cm.

J. xli. 1871. P. 342.

260. Map of the Bhawalpore State (Punjab), to accompany the paper by J. W. Barns, Esq., F. G. S. Scale, 26 m. = in. Size, 50.1 × 24.4 cm.

J. xlii. 1872. P. 390.

261. Rainfall and forest trees in India. Drawn for "Ocean highways: the geographical record," by A. Keith Johnstone, F. R. G. S. Scale, 260 m. = in. Size, 20.9 × 29.6 cm.

O. H. ii. No. 7. 1872. P. 202.

262. The distribution of the caoutchouc tree, or *Ficus elastica*, in Assam. By Gustav Mann. Scale, 32 m. = in. Size, 46.4 × 21.9 cm.

O. Hh. i. 1873. P. 67.

263. The parts of the lower provinces and the north west provinces of Bengal threatened with famine in 1874 [with an outline of Ireland, on the same scale, superimposed, for comparison]. Scale, 33 m. = in. Size, 44 × 33.8 cm.

O. Hh. i. 1873. P. 441.

264. Hypsographical sketch map of southern India. By E. G. Ravenstein. Scale, 1: 3,000,000 [47.35 m. = in.]. Size, 16.6 × 22.4 cm.

Rain map. Scale [ca. 193 m. = in.]. Size, 6.5 × 7.1 cm.

G. M. i. 1874. P. 329.

265. The upper Periyâr, illustrating a paper by Clements R. Markham [on irrigation in southern India]. Scale, 1: 250,000 [= 3.95 m. = in.]. Size, 22.9 × 15.7 cm.

G. M. i. 1874. P. 332.

266. Map showing the proposed overland trade routes from India and British Burmah to China, to accompany the paper by J. Coryton, Esq. Scale, 132 m. = in. Size, 33.7 × 27.8 cm.

J. xlv. 1875. P. 229.

267. Map showing routes of native explorers in Tibet and Nepal, to illustrate the papers by Mr.

Markham and Lieutenant-Colonel T. G. Montgomerie. Scale, 32 m. = in. Size, 57.3 × 28.8 cm.

Continuation of map north-west of Gartokh, from the Pundit's journey of 1867. Scale, 32 m. = in. Size, 14.5 × 6.8 cm.

J. xlv. 1875. P. 299.

263. Sketch of the irrigation works in Firozpur (Punjab). Scale, 7.66 m. = in. Size, 26.1 × 15.8 cm.

G. M. iii. 1876. P. 60.

269. Map of a portion of Tibet and adjoining countries, illustrating the Pundit's journey in 1874. By E. G. Ravenstein, F. R. G. S. Scale, 1: 2,500,000 [39.47 m. = in.]. Size, 58.2 × 36.1 cm.

G. M. iii. 1876. P. 145.

270. The famine districts of Bombay and Madras, 1877. Scale, 76 m. = in. Size, 23.8 × 31.5 cm.

G. M. iv. 1877. P. 111.

271. The Himalaya and Tibet: a view of the mountain system bounded by the plains of India, Gobi, China, and the Caspian. Scale, 83 m. = in. Size, 67.3 × 24.5 cm.

G. M. iv. 1877. P. 173.

272. A fac-simile of "a sketch map of the principal natural divisions of the Himalaya," by B. H. Hodgson, Esq., 1857. Scale [ca. 81 m. = in.]. Size, 40.8 × 21.3 cm.

G. M. iv. 1877. P. 178.

273. Map of portion of Malabar coast indicating manner of extension. Scale, 2 m. = in. Size, 16 × 24.6 cm.

G. M. iv. 1877. P. 230.

274. The distribution of persons relieved in the famine districts of southern India, according to the latest reports. Scale, 77 m. = in. Size, 39.9 × 31.4 cm.

G. M. iv. 1877. P. 286.

275. Map of the Krishna basin [southern India]. Scale, 55 m. = in. Size, 26 × 17.6 cm.

G. M. iv. 1877. P. 307.

276. [Plan of the Karakoram range between the Lob and Indus basins, to illustrate Mr. Shaw's article: "Water partings *versus* ranges."] Scale, 40 m. = in. Size, ca. 15 × 12 cm.

G. M. iv. 1877. P. 315.

277. A language map of India and its border lands. E. L. B. and R. N. C., 1877. No. 1. Scale, 138 m. = in. Size, 41.6 × 40.7 cm.

G. M. v. 1878. P. 1.

278. Sketch map constructed to illustrate explorations made in connection with the operations of the Great Trigonometrical Survey of India, by Mulla —, in 1876. Scale, 24 m. = in. Size, 25.5 × 25.7 cm.

G. M. v. 1878. P. 112.

279. Map of the north-west frontier of India and eastern Afghanistan. Scale, 34 m. = in. Size, 30.5 × 37.2 cm.

G. M. v. 1878. P. 256.

280. The Kaibar, Karkatcha, and Kurrum passes. Scale, 16 m. = in. Size, 44.4 × 24.5 cm.

G. M. v. 1878. P. 277.

281. The Sulimani mountains on the Afghan frontier of British India. Based on Major Wilson's map, collated with other authorities. Scale, 24 m. = in. Size, 42.4 × 53.2 cm.

Pp. i. 1879. P. 80.

282. Sketch map of the Bustar dependency. By Captain T. Holdich, R. E. Scale, 23.5 m. = in. Size, 22.3 × 19.5 cm.

[Sketch of a portion of the Madras and Bengal presidencies, to show the position of the Bustar dependency.] Scale [ca. 280 m. = in.]. Size, 5.7 × 6.7 cm.

Pp. i. 1879. P. 416.

283. Map of Sikkim and parts of the adjacent territories; to illustrate Sir R. Temple's paper. Scale, ca. 5.5 m. = in. Size, 23.1 × 21.6 cm.

Pp. iii. 1881. P. 384.

284. Sketch map showing the river system of Tibet, Assam, and Burma. Scale, 125 m. = in. Size, 27.3 × 30.4 cm.

Pp. iv. 1882. P. 328.

285. Sketch map of the Marhatta country, to illustrate Sir Richard Temple's lecture. Scale, 57 m. = in. Size, 13.2 × 22.1 cm.

Pp. iv. 1882. P. 520.

286. Map of the Shaktu valley, north west frontier, Punjab. From a sketch by Captain G. F. Young, D. A. Quartermaster-General. Scale, 3.12 m. = in. Size, 40.3 × 10.6 cm, and 40.4 × 10.8 cm.

Pp. iv. 1882. P. 584.

8. Siberia.

287. The Uralian Mountains (from 51° to 60° N. Lat.). Compiled from various Russian MS. maps, as well as those of Humboldt, Helmersen, etc., by Roderick I. Murchison, V. P. R. S. . . . and John Arrowsmith, F. R. G. S. Scale, 35 m. = in. Size, 37 × 48.5 cm. J. xiii. 1843. Pt. ii. Art. v.

288. Map of the Amúr and adjacent districts, to illustrate notes by M. M. Peschurof, Shenurin, Vesilief, Radde, Usoltzof, Pargachefski, etc. Compiled by John Arrowsmith. Scale [ca. 52 m. = in.]. Size, 45.8 × 19.8 cm. J. xxviii. 1858. P. 376.

289. Map of the Russian and Chinese frontier; illustrating the journey of Semenov to the Tian-Shan mountains and R[iver] Jaxartes, and Golubef's Issyk-kul expedition. Scale, 33 m. = in. Size, 45.2 × 34.4 cm. J. xxxi. 1861. P. 356.

290. Map of the (lake) Nor-Zaisan (Chinese Tartary) and its neighbourhood, to illustrate the paper of M. Abramof. Scale, 55 m. = in. Size, 19.3 × 11 cm. J. xxxv. 1865. P. 59.

291. Map of the Russian possessions in Manchuria, to accompany the paper by Rev. W. V. Lloyd. Scale, 108 m. = in. Size, 19.5 × 25.1 cm.

Peter the Great, or Victoria, bay, on an enlarged scale. Scale, 27 m. = in. Size, 10.3 × 6.1 cm.

J. xxxvii. 1867. P. 212.

292. [Sketch map of the northwestern portion of North America and the northeastern portion of Asia, showing the position of Alaska.] Scale [ca. 378 m. = in.]. Size, 26.1 × 17.4 cm.

J. xxxviii. 1868. P. 219.

293. Central Asia. Map to illustrate Baron Osten Sacken's route from Verne to the Trans-Naryn country. Scale, 46 m. = in. Size, 11.6 × 17.9 cm.

J. xl. 1870. P. 250.

294. The island of Saghalin, from Russian authorities, to accompany the paper by Colonel Veniukof. Scale, 54 m. = in. Size, 11.1 × 32.1 cm.

J. xlii. 1872. P. 373.

295. Sketch illustrating Chekanovski's journey to the Olena (Olenek), 1874. Scale, 120 m. = in. Size, 17.6 × 25.4 cm.

G. M. ii. 1875. P. 228.

296. Map of Kuldja district and the Russo-Chinese frontier in Turkestan. Reduced from Colonel Walker's map. Scale, 55 m. = in. Size, 42.9 × 22.2 cm.

Pp. ii. 1880. P. 528.

9. Chinese Empire.

A. East Turkestan.

297. Map of the Russian and Chinese frontier; illustrating the journey of Semenov to the Tian-Shan mountains and R[iver] Jaxartes, and Golubef's Issyk-kul expedition. Scale, 33 m. = in. Size, 45.2 × 34.4 cm. J. xxxi. 1861. P. 356.

298. Map of the country between Leh and Ilchi, showing the routes taken by Mr. Johnson, civil assistant G. T. Survey, in 1865. Scale, 31 m. = in. Size, 25 × 23.2 cm. J. xxxvii. 1867. P. 1.

299. Map to accompany paper on the Bolor highlands, by M. Veniukoff. Scale, 55 m. = in. Size, 17.5 × 19.1 cm. P. xiii. 1868-69. [P. 343.]

300. Sketch map of eastern Turkistan, showing the hydrography of the Pamir to the east, the true courses of the Yarkand and Karakash rivers, with all the routes from Ladak across the Karakoram and adjacent ranges. As drawn by the author, George J. W. Hayward. Scale, 32 m. = in. Size, 31.7 × 39.5 cm. J. xl. 1870. P. 33.

301. Central Asia. Map to illustrate Baron Osten Sacken's route from Vernoe to the Trans-Naryn country. Scale, 46 m. = in. Size, 11.6 × 17.9 cm. J. xl. 1870. P. 250.

302. A map to illustrate Captain Harcourt's paper on the Himalayan valleys of Kooloo, Lahoul, and Spiti, with a sketch map of the passes from India to eastern Turkistan.

a. The Himalayan valleys of Kooloo, Lahoul, and Spiti. Scale, 16 m. = in. Size, 18.7 × 20.3 cm.

b. The passes from India to eastern Turkistan. Scale, 73 m. = in. Size, 16.4 × 20.2 cm.

J. xli. 1871. P. 245.

303. Sketch map of the frontier districts of Kashgar and Russia. By E. G. Ravenstein. Scale, 1 : 6,000,000 [94.7 m. = in.]. Size, 25.6 × 17.6 cm. G. M. i. 1874. P. 194.

304. Sketch map illustrative of Sir D. Forsyth's mission to Kashghar. Based upon Captain Trotter's preliminary map published by Colonel J. T. Walker, F. R. S. Scale, 60 m. = in. Size, 27.1 × 17.3 cm. G. M. ii. 1875. P. 145.

305. Sketch map of eastern Turkistan, to illustrate the paper by R. B. Shaw, Esq. Scale, 18 m. = in. Size, 26.6 × 19.7 cm. J. xlvi. 1876. P. 277.

306. [Plan of the Karakoram range between the Lob and Indus basins, to illustrate Mr. Shaw's article: "Water partings *versus* ranges."] Scale, 40 m. = in. Size, ca. 15 × 12 cm. G. M. iv. 1877. P. 315.

307. Prejevalsky's route from Kuldja across the Tian Shan to Lob Nor and the Altyn Tag, 1876 and 1877. Scale, 1 : 3,000,000 [47.35 m. = in.]. Size, 31.1 × 24.3 cm. G. M. v. 1878. P. 109.

308. Map of Kuldja district and the Russo-Chinese frontier in Turkistan. Reduced from Colonel Walker's map. Scale, 55 m. = in. Size, 42.9 × 22.2 cm. Pp. ii. 1880. P. 528.

B. Tibet.

309. Map of west Nari, with the adjoining provinces of the Indian Himalaya; to illustrate Captain H. Strachey's memoir on the physical geography of western Tibet. Scale, 50 m. = in. Size, 33.8 × 33.8 cm. J. xxiii. 1853. Art. 1.

310. Map showing the route survey from Nepal to Lhasa, and thence through the upper valley of the Brahmaputra. Made by Pundit — from the map compiled by Captain T. G. Montgomerie, R. E. Scale, 32 m. = in. Size, 57.9 × 27.9 cm.

Continuation of map north-west of Gartokh, from the Pundit's journey of 1867. Scale [32 m. = in.]. Size, 14.6 × 7.9 cm.

J. xxxviii. 1868. P. 129.

311. Map of the head-waters of the Kinchar Kiang, Lan tsan Kiang, Now Kiang, and Great River of Tibet. Laid down from Chinese maps by T. T. Cooper. Scale [ca. 36 m. = in.]. Size, 41.1 × 18.2 cm. P. xiii. 1868-69. P. 393.

312. Map showing routes of native explorers in Tibet and Nepal, to illustrate the papers by Mr. Markham and Lieutenant-Colonel T. G. Montgomerie. Scale, 32 m. = in. Size, 57.3 × 28.8 cm.

Continuation of map north-west of Gartokh, from the Pundit's journey of 1867. Scale, 32 m. = in. Size, 14.5 × 6.8 cm.

J. xlv. 1875. P. 299.

313. Map of Great Tibet, shewing the route of the Trans-Himalayan explorers, round Lake Tengri-Nor to Lhasá, 1872. Scale, 16 m. = in. Size, 28.8 × 25.9 cm. G. M. ii. 1875. P. 41.

314. Map of a portion of Tibet and adjoining countries, illustrating the Pundit's journey in 1874. By E. G. Ravenstein, F. R. G. S. Scale, 1 : 2,500,000 [39.47 m. = in.]. Size, 58.2 × 36.1 cm. G. M. iii. 1876. P. 145.

315. Map illustrating the journey of the Pundit Nain Singh through Great Tibet from Ladakh to Assam, to accompany the paper by Captain H. Trotter, R. E. Scale, 31 m. = in. Size, 66.8 × 45.3 cm. J. xlvi. 1877. P. 87.

316. The Himalaya and Tibet: a view of the mountain system bounded by the plains of India, Gobi, China, and the Caspian. Scale, 83 m. = in. Size, 67.3 × 24.5 cm. G. M. iv. 1877. P. 173.

317. A facsimile of "a sketch map of the principal natural divisions of the Himalaya," by B. H. Hodgson, Esq., 1857. Scale [ca. 81 m. = in.]. Size, 40.8 × 21.3 cm. G. M. iv. 1877. P. 178.

318. Route map of Captain W. J. Gill's journey in western China and eastern Tibet, 1877. Reduced from his original drawings and collated with other material by W. J. Turner. Scale, 1 : 1,774,080 [28 m. = in.]. Size, 47.5 × 57.9 cm. J. xlvi. 1878. P. 57.

319. A language map of India and its border lands. E. L. B. and R. N. C., 1877. No. 1. Scale, 138 m. = in. Size, 41.6 × 40.7 cm. G. M. v. 1878. P. 1.

320. Map illustrating the paper of Major J. E. Sandeman, Bengal Staff Corps, showing the journey of Pundit Alaga, the sources of the Irawadi river, and its supposed connection with the Sampo river, compiled from the latest information. Scale, 1 : 1,250,000 [19.75 m. = in.]. Size, 53.9 × 53.2 cm.

Sketch map showing the river system of Tibet, Assam, and Burma. Scale, 125 m. = in. Size, 27.3 × 30.4 cm. Pp. iv. 1882. P. 328.

C. Mongolia, Manchuria, and Korea.

321. Map of the Amúr and adjacent districts, to illustrate notes by M. M. Peschurof, Shenurin, Vesilief, Radde, Ussoltzof, Pargachefski, etc. Compiled by John Arrowsmith. Scale [ca. 52 m. = in.]. Size, 45.8 × 19.8 cm. J. xxviii. 1858. P. 376.

322. Map to illustrate the routes of Messrs. Michie and Grant; the former from Tien-tsin to Moukden in Manchuria, the latter from Peking across the Desert of Gobi to Kiachta. Scale, 35 m. = in. Size, 39.5 × 19.5 cm.

Continuation of Mr. Grant's route, on a reduced scale. Scale, 225 m. = in. Size, 8.4 × 9 cm. J. xxxiii. 1863. P. 153.

323. [Sketch of Korea and adjacent regions, to show the position of the Island of Tsushima.] Scale [ca. 550 m. = in.]. Size, 6.1 × 4.4 cm. J. xxxiii. 1863. P. 178.

324. Map of the (lake) Noe-Zaisan (Chinese Tartary) and its neighbourhood, to illustrate the paper of M. Abramof. Scale, 55 m. = in. Size, 19.3 × 11 cm. J. xxxv. 1865. P. 59.

325. Map of the Russian possessions in Manchuria, to accompany the paper by Rev. W. V. Lloyd. Scale, 108 m. = in. Size, 19.5 × 25.1 cm.

Peter the Great, or Victoria bay, on an enlarged scale. Scale, 27 m. = in. Size, 10.3 × 6.1 cm. J. xxxvii. 1867. P. 212.

326. Map to accompany the notes on Manchuria by the Rev. Alexander Williamson. Scale, 60 m. = in. Size, 31.9 × 25.8 cm. J. xxxix. 1869. P. 1.

327. Map to accompany notes of a journey through Manchuria by the Archimandrite Palladius. Scale, 45 m. = in. Size, 37.9 × 43.9 cm.

J. xlii. 1872. P. 142.

328. Map to illustrate a journey through western Mongolia by Ney Elias, jr, F. R. G. S., July, 1872, to January, 1873. Scale, 1: 4,320,000 [68.18 m. = in.]. Size, 69.8 × 37.1 cm.

J. xliiii. 1873. P. 109.

329. Map of the desert of Gobi, shewing the route of Mr. Ney Elias. Drawn by E. G. Ravenstein. Scale, 1: 10,000,000 [157.83 m. = in.]. Size, 24.2 × 15.9 cm.

O. Hh. i. 1873. P. 126.

330. Route map of journey through north China and inner Mongolia by Dr. Bushell. Scale, 28 m. = in. Size, 23.3 × 19.7 cm. J. xlv. 1874. P. 73.

331. Sketch map to elucidate Mr. Paderin's visit to the site of Karakorum, 1873. Drawn by Colonel H. Yule, C. B. Scale, 70 m. = in. Size, 25.7 × 17.3 cm. G. M. i. 1874. P. 137.

332. Sketch map of part of western Mongolia, illustrating the explorations of Miroshnichenko, Matusovski, and Sosnovski. 1872-73. Scale, 70 m. = in. Size, 25.9 × 17.3 cm.

G. M. ii. 1875. P. 196.

D. China.

333. The Yang-tsze-Kiang to illustrate paper by Lord Colchester and Captain Collinson, R. N. 1847. Scale, 48 m. = in. Size, 21.4 × 14.7 cm.

J. xvii. 1847. Art. iii.

334. Island of Chusan, from official surveys. To accompany a memoir on the island by Sir John Francis Davis, Baronet, F. R. S., F. R. G. S. Scale, 2.16 m. = in. Size, 31.3 × 19.5 cm.

J. xxxiii. 1853. Art. xx.

335. Map of the Yang-tse-Kiang or Ta-Kiang from Han-Kow in Hoopah to Nankin in Kiang-Su. Compiled by Captain Sherard Osborn, R. N., C. B., F. R. G. S., etc. H. M. S. Furious. 1858. Scale, 34 m. = in. Size, 23 × 18.8 cm.

J. xxx. 1860. P. 76.

336. China. The Yang-tsze-Kiang, from Hankow to Ping-shan; reduced from the large chart (of which this is the index) from the survey of Captain T. Blakiston, R. A., by John Arrowsmith. Scale, 28 m. = in. Size, 57.2 × 18.5 cm.

J. xxxii. 1862. P. 1.

337. Sketch map of the island of Formosa, to illustrate the paper by Mr. Robert Swinhoe (Vice-Consul). Scale, 25.5 m. = in. Size, 11.5 × 19.4 cm.

J. xxxiv. 1864. P. 6.

338. The city of Peking, from a survey by Captain Bouvier, of the French Engineers, 1862. Scale, 2754 ft. = in. Size, ca. 27 × 30 cm.

J. xxxvii. 1866. P. 129.

339. Sketch map of north eastern India, with portions of Burmah and China, to accompany the paper by Lieutenant Sir Arthur Cotton, R. E. Scale, 97 m. = in. Size, 45.5 × 19.4 cm.

The frontiers of Assam, Burmah, and China, on an enlarged scale. Scale, 50 m. = in. Size, 17 × 10.7 cm.

J. xxxviii. 1867. P. 231.

340. The River Kong or Cassia. Reduced from the large map by Albert S. Bickmore, Esq., M. A. Scale [ca. 18 m. = in.]. Size, 19.5 × 24.9 cm.

Sketch map illustrating Mr. Bickmore's journey from Canton to Hankow. Scale, 85 m. = in. Size, 11.2 × 19.9 cm.

J. xxxviii. 1868. P. 50.

341. Map to accompany Mr. Ney Elias' paper on the new course of the Yellow river. Scale, 60 m. = in. Size, 17.7 × 22.2 cm.

J. xl. 1870. P. i.

342. Sketch map showing the mineral and silk districts of the province of Shan-Tung (China), to accompany the paper by J. Markham, Esq., H. M. Consul at Chefoo. Scale, 32 m. = in. Size, 37.1 × 24.3 cm. J. xl. 1870. P. 207.

343. The Yang-tsze-Kiang from Tung-Ting lake to Chung-King, to accompany the paper by R. Swinhoe, Esq., H. M. Consul. Scale, 14 m. = in. Size, 66.5 × 22.9 cm. J. xl. 1870. P. 268.

344. Sketch map of the south-western frontiers of China, from a map compiled by the French missionaries. Scale [ca. 32 m. = in.]. Size, 11.4 × 18.1 cm. P. xv. 1870-71. P. 163.

345. Sketch map of southern Formosa, to accompany the paper by J. Thomson, Esq. Scale, 14 m. = in. Size, 19.2 × 25.6 cm.

J. xliiii. 1873. P. 97.

346. Route map of journey through north China and inner Mongolia by Dr. Bushell. Scale, 28 m. = in. Size, 23.3 × 19.7 cm. J. xlv. 1874. P. 73.

347. South eastern coast of China. From Sir Robert Dudley's *Arcano del Mare*, vol. ii., 1647. Scale [ca. 153 m. = in.]. Size, 12.7 × 11.2 cm.

J. xlv. 1874. P. 103.

348. Sketch of south eastern coast of China from Admiralty charts, etc. Scale [ca. 153 m. = in.]. Size, 12.2 × 11.2 cm. J. xlv. 1874. P. 103.

349. [Sketch maps of China, to illustrate a paper by Colonel H. Yule.]

Fig. 1. China, from Padre Martini's *Atlas Sinensis*, 1655. Scale [ca. 338 m. = in.]. Size, 13.2 × 14 cm.

Fig. 2. China, from Keith Johnston's *Royal atlas*, circa 1860. Scale [ca. 338 m. = in.]. Size, 11.7 × 14 cm.

G. M. i. 1874. P. 147.

350. The Middle Kingdom. [Approximate reproduction of Matteo Ricci's map of China, and surrounding countries.] Scale [ca. 1700 m. = in.]. Size, 11 × 11 cm. G. M. i. 1874. P. 147.

351. Map of Formosa. By E. G. Ravenstein. Scale, 1: 2,000,000 [31.57 m. = in.]. Size, 15.6 × 23.6 cm. G. M. i. 1874. P. 292.

352. Map showing the proposed overland trade routes from India and British Burmah to China, to accompany the paper by J. Coryton, Esq. Scale, 132 m. = in. Size, 33.7 × 27.8 cm.

J. xlv. 1875. P. 229.

353. Map of Further India and south-western China. By E. G. Ravenstein, F. R. G. S. Scale, 1: 5,000,000 [78.91 m. = in.]. Size, 46.8 × 52.6 cm. G. M. ii. 1875. P. 97.

354. Map to illustrate the journey from Hankow to Tali-Fu of Mr. A. R. Margary. Scale, 70 m. = in. Size, 41.3 × 17.7 cm. J. xlvi. 1876. P. 173.

355. Route map between Bhamo and Mung-Mau through the hills of the Lenna Kahhyens, by Ney Elias, Esq. Scale, 8 m. = in. Size, 29.1 × 18.2 cm. J. xlv. 1876. P. 199.

356. Route map of Captain W. J. Gill's journey in western China and eastern Tibet, 1877. Reduced from his original drawings and collated with other material by W. J. Turner. Scale, 1: 1,774,080 [28 m. = in.]. Size, 47.5 × 57.9 cm.

J. xlviii. 1878. P. 57.

357. Map of central and southern China, illustrating Mr. McCarthy's journey from Chin-kiang to Bhamo, 1877. Scale, 130 m. = in. Size, 32.8 × 20.1 cm. Pp. i. 1879. P. 544.

358. Map of part of China, to accompany the paper by E. Fitzgerald Creagh. Scale, 138 m. = in. Size, 17.4 × 18.7 cm. J. l. 1880. P. 275.

359. Maps to accompany papers on journeys in eastern China, by G. J. Morrison, M. I. C. E., 1878. Scale, 62 m. = in. Size, 21.2 × 28.3 cm., and 8.6 × 28.3 cm. Pp. ii. 1880. P. 208.

360. Map of southern China, showing Mr. A. R. Colquhoun's route from Canton to Bhamo. Scale, 98 m. = in. Size, 38.2 × 22.4 cm.

Pp. iv. 1882. P. 776.

361. Map illustrating the distribution of the Sifan tribes [to accompany Mr. E. C. Baber's paper on western China. 1882]. Scale [ca. 60 m. = in.]. Size, 21.6 × 13.7 cm. S. P. i. Pt. 1. 1882. P. 93.

362. [Plan of excavations near Ch'ien-wei Hsien, on the Min, western Ssu-ch'nan; to accompany Mr. E. C. Baber's paper on western China.] Scale, 16 ft. = in. Size, ca. 8 × 10 cm.

S. P. i. Pt. 1. 1882. P. 130.

363. Route map of explorations in western China by E. Colborne Baber, F. R. G. S., Chinese secretary H. M. Legation. Peking. [In three sheets.] Scale, 10.25 m. = in. Size (sheet 1), 46.8 × 73.3 cm.; (sheet 2), 77.2 × 22.2 cm.; (sheet 3), 30.7 × 22.1 cm.

Map of China [showing Mr. Baber's route]. Scale, 290 m. = in. Size, 16.2 × 14.5 cm.

S. P. i. Pt. 1. 1882. P. 202.

364. Plan of a tomb [in the Imperial mausolea east of Peking]. Scale, *wanting*. Size, 5.4 × 7.5 cm.

Pp. v. 1883. P. 26.

10. Japan.

365. Japan. Map to illustrate a journey from the city of Yeddo to the mountain of Fusi-yama, performed by Rutherford Alcock, Esq., C. B. 1860. Scale, 22 m. = in. Size, 12.9 × 17.4 cm.

J. xxxi. 1861. P. 321.

366. Japan; reduced from a Japanese map. Scale [ca. 35 m. = in.]. Size, 37 × 20.3 cm.

J. xxxii. 1862. P. 280.

367. Tsu-sima island, in the Strait of Korea; to illustrate the paper by Laurence Oliphant, Esq. 1863. Scale [ca. 5.7 m. = in.]. Size, 11.2 × 18.7 cm.

[Sketch of Korea and adjacent regions to show the position of the island of Tsusima.] Scale [ca. 550 m. = in.]. Size, 6.1 × 4.4 cm.

J. xxxiii. 1863. P. 178.

368. Map of part of Nippon island, to accompany Mr. Adams' report on the central silk districts of Japan. Scale, 28 m. = in. Size, 21.4 × 17.6 cm.

J. xl. 1870. P. 339.

369. The island of Yezo (Japan), to illustrate the papers by Captain T. Blakiston and Commander St. John, R. N. Scale, 49 m. = in. Size, 24.1 × 18.5 cm.

J. xlii. 1872. P. 77.

370. Map to illustrate Mr. Troup's tour [through parts of the provinces of Echigo, Echiu, Kaga, and Noto, Japan, April 3d to May 4th, 1871]. Scale [ca. 15 m. = in.]. Size, 9.7 × 18.4 cm.

J. xlii. 1872. P. 425.

371. A sketch map shewing the position of the public works in Japan, and some of the known products. Drawn by R. H. Brunton, Esq., engineer to the Japanese government. Scale, 123 m. = in. Size, 20.6 × 29.4 cm.

O. H. ii. No. 9. 1872. P. 277.

372. Sketch map of route from Kioto to Yedo (Japan), to accompany the paper by C. W. Lawrence, Esq. Scale, 30 m. = in. Size, 22.9 × 11.1 cm.

J. xliii. 1873. P. 55.

11. Farther India.

373. Sketch of the River Koladyn (Aracan), to accompany a paper by Captain S. R. Tickell, B. I. N. 1851. Scale, 18 m. = in. Size, 10.7 × 19.7 cm.

J. xxiv. 1854. P. 114.

374. Sketch of Siam and the adjacent states, to illustrate geographical notes on Siam, by Harry Parkes, Esq., Her Britannic Majesty's Consul at Amoy. 1855. Scale, 162 m. = in. Size, 16.3 × 19.3 cm.

J. xxvi. 1856. P. 71.

375. Sketch of the Menam and other Siamese rivers, from the surveys and observations of the American missionaries, communicated by Mr. Consul Parkes, 1855. Scale [ca. 17 m. = in.]. Size, 15 × 19.4 cm.

J. xxvi. 1856. P. 71.

376. Map of Burma and its tributary states; by Captain Henry Yule, Bengal Eng'rs. 1856. Scale, 49 m. = in. Size, 20.1 × 28.6 cm.

J. xxvii. 1857. P. 54.

377. Sketch map from Bangkok in Siam to Pe-lombing in Cambodia; to accompany the journal of D. O. King, Esq. 1857-58. Scale [ca. 58 m. = in.]. Size, 18.7 × 10.8 cm. J. xxx. 1860. P. 178.

378. Sketch of the Menam and other Siamese rivers, from the surveys and observations of the American missionaries. Communicated by Mr. Consul Parkes, 1855. Scale, 17.5 m. = in. Size, 15.1 × 19.4 cm.

P. v. 1860-61. [P. 118.]

379. Sketch of Siam and the adjacent states, to illustrate geographical notes on Siam. By Harry Parkes, Esq., Her Britannic Majesty's Consul at Amoy, 1855. Scale, 160 m. = in. Size, 16.3 × 19.3 cm.

P. v. 1860-61. [P. 118.]

380. Map of Cambodia, the Lao country, etc., to illustrate the route and notes of M. Henri Mouhot. 1859-61. Scale, 70 m. = in. Size, 19.2 × 32.1 cm.

J. xxxii. 1862. P. 142.

381. Sketch map to illustrate journal of a tour to Karen-ni, for the purpose of opening a trading road to the Shan traders, from Mobyay and the adjacent Shan states, through Toungu; protracted from the notes, bearings, etc., of Edward O'Riley, Esq. 1862. Scale, 10.5 m. = in. Size, 19.2 × 19.1 cm.

J. xxxiii. 1862. P. 164.

382. Map of part of the province of Siemrab (Cambodia), to accompany the paper by Dr. Bastian. Scale, 17 m. = in. Size, 19.6 × 11.8 cm.

J. xxxv. 1865. P. 74.

383. Sketch map of northeastern India, with portions of Burmah and China, to accompany the paper by Lieutenant Sir Arthur Cotton, R. E. Scale, 97 m. = in. Size, 45.5 × 19.4 cm.

The frontiers of Assam, Burmah, and China on an enlarged scale. Scale, 50 m. = in. Size, 17 × 10.7 cm.

J. xxxvii. 1867. P. 231.

384. Map of the Gulf of Siam and adjacent districts in Laos and Cambodia, to illustrate the journey of Mr. H. G. Kennedy. Scale, 63 m. = in. Size, 18.8 × 21.6 cm. J. xxxvii. 1867. P. 298.

385. Map of the country between Bhamo and Momein, shewing the route of the expedition under the command of Major E. B. Sladen. Scale, 13 m. = in. Size, 33.5 × 19.3 cm.

[Sketch map of the lower course of the Irrawaddy river.] Scale [ca. 56 m. = in.]. Size, 4.8 × 19.3 cm.

J. xli. 1871. P. 257.

386. Map showing the route from Assam over the Patkoi range into Hookeong, to illustrate the paper by H. L. Jenkins, Esq. Scale, 46 m. = in. Size, 22 × 17.5 cm. J. xli. 1871. P. 342.

387. Map showing the proposed overland trade routes from India and British Burmah to China, to accompany the paper by J. Coryton, Esq. Scale, 132 m. = in. Size, 33.7 × 27.8 cm.

J. xlv. 1875. P. 229.

388. Map of Further India and south-western China. By E. G. Ravenstein, F. R. G. S. Scale, 1. 5,000,000 [78.91 m. = in.]. Size, 46.8 × 52.6 cm. G. M. ii. 1875. P. 97

389. Route map between Bhamo and Mung-Mau through the hills of the Lenna Kabhyens, by Ney Elias, Esq. Scale, 8 m. = in. Size, 29.1 × 18.2 cm. J. xlvii. 1876. P. 199.

390. Sketch map of Perak and adjacent native states, to illustrate the paper by W. Barrington D'Almeida. Scale, 28 m. = in. Size, 18 × 23.2 cm. J. xlvii. 1876. P. 357.

391. A language map of India and its border lands. E. L. B. and R. N. C. 1877. No. 1. Scale, 138 m. = in. Size, 41.6 × 40.7 cm.

G. M. v. 1878. P. 1.

392. A language map of Farther India and the Indian Archipelago. E. L. B. and R. N. C. 1878. No. 2. Scale, 138 m. = in. Size, 55.2 × 47.3 cm.

[Map of Madagascar.] Scale [ca. 330 m. = in.]. Size, 6.4 × 7.9 cm.

G. M. v. 1878. P. 25.

393. Map illustrating the paper of Major J. E. Sandeman, Bengal Staff Corps, showing the journey of Pundit Alaga, the sources of the Irawadi river, and its supposed connection with the Sampo river, compiled from the latest information. Scale, 1: 1,250,000 [19.75 m. = in.]. Size, 53.9 × 53.2 cm.

Sketch map showing the river system of Tibet, Assam, and Burma. Scale, 125 m. = in. Size, 27.3 × 30.4 cm.

Pp. iv. 1882. P. 328.

394. Map of the Malay peninsula. To accompany the paper of Mr. D. D. Daly, superintendent of Public Works and Surveys, Selangor, showing his surveys and explorations in the native states. Scale, 1: 1,210,000 [19.09 m. = in.]. Size, 42.4 × 46.8 cm. Pp. iv. 1882. P. 456.

395. Map of the northern part of Perak (Malay peninsula), from a survey by Mr. D. D. Daly, 1877. Scale, 4 m. = in. Size, 33.8 × 46.9 cm.

Pp. iv. 1882. P. 456.

12. East Indian Archipelago.

396. Eastern archipelago, to illustrate Mr. W. Earle's paper. 1845. Scale [ca. 62 m. = in.]. Size, 23.8 × 19.5 cm. J. xv. 1845. Art. iii. (Misc.).

397. Part of the n. w. coast of Borneo, to illustrate the paper of Spencer St. John, Esq., H. B. M. Consul General for Borneo. Scale [ca. 6 m. = in.]. Size, 24.9 × 19.2 cm. J. xxxii. 1862. P. 217.

398. Asiatic or Eastern archipelago. Map to illustrate a paper on the physical geography of the Malay archipelago, by Alfred Russell Wallace, Esq. 1863. Scale [ca. 441 m. = in.]. Size, 30 × 18.5 cm. J. xxxiii. 1863. P. 217.

399. Plan of the area on the summit of the Gunung Api, of Banda. Scale, *wanting*. Size, ca. 3.5 × 2 cm. P. xii. 1867-68. P. 330.

400. Sketch map of northern Sumatra, shewing the territories of Achin; chiefly from a recent Dutch map by Colonel W. F. Versteeg. Scale, 47 m. = in. Size, 18 × 16.7 cm.

a. The whole island of Sumatra. Scale [ca. 240 m. = in.]. Size, 7.2 × 10.9 cm.

b. Vicinity of Achin. Scale, 14 m. = in. Size, 7.2 × 5.9 cm.

O. Hh. i. 1873. P. 177.

401. Map shewing the routes of the British India and of the Netherlands' India Steam Navigation Companies. Compiled by E. G. Ravenstein, F. R. G. S. Scale, 1: 40,000,000 [631.31 m. = in.]. Size, 35.6 × 23.1 cm. O. Hh. i. 1873. P. 505.

402. Chart [of the north coast of Sumatra] illustrative of Marco Polo and Malay annals. [With the] north coast of Sumatra as shown in modern

charts. Scale [ca. 60 m. = in.]. Size, 13.7 × 9.7 cm. P. xx. 1875-76. P. 220.

403. Map of the Tenimber islands, after Guyot's general map of the Assistant Residency Banda, illustrating the recent discovery of Egeron strait; to accompany the paper by Professor P. J. Veth. Scale, 20.5 m. = in. Size, 15.1 × 18 cm. J. xlvi. 1878. P. 295.

404. A language map of Farther India and the Indian Archipelago. E. L. B. and R. N. C. 1878. No. 2. Scale, 138 m. = in. Size, 55.2 × 47.3 cm.

[Map of Madagascar.] Scale [ca. 330 m. = in.]. Size, 6.4 × 7.9 cm.

G. M. v. 1878. P. 25.

405. Map of north Borneo, by Mr. W. M. Crocker, Resident of Sarawak. Scale, 58 m. = in. Size, 35 × 22.4 cm.

a. The Residency of Sarawak on an enlarged scale. Scale, 14.5 m. = in. Size, 12.9 × 12 cm.

b. General map of Borneo. Scale, 240 m. = in. Size, 8.7 × 9.3 cm.

Pp. iii. 1881. P. 256.

IV. AFRICA.

1. General.

406. Map of North Africa to illustrate the question "Is the Quorra the Niger of the ancients?" By W. M. Leake. Scale [ca. 350 m. = in.]. Size, 30.4 × 20 cm. J. ii. [1832.] Art. i.

407. Red sea, to illustrate Lieutenant Welsted's papers. Scale [ca. 94 m. = in.]. Size, 12.7 × 18.8 cm. J. vi. 1836. P. 96.

408. Reduced sketch of native Indian chart [of part of the Red sea and Gulf of Aden], to illustrate the paper by Lieutenant A. Burnes, E. I. C. S. Scale [ca. 306 m. = in.]. Size, 17.4 × 5 cm.

J. vi. 1836. P. 113.

409. North Africa. Map to accompany a general historical description of the state of human society in northern central Africa by Dr. H. Barth. Scale, 340 m. = in. Size, 34.5 × 23 cm. J. xxx. 1860. P. 112.

410. A sketch to show the relation of the Luabala to the other rivers of Africa. Scale, 410 m. = in. Size, 20.5 × 29.3 cm. O. H. ii. No. 6. 1872. P. 173.

[Ancient Portuguese maps of Africa.]

a. Africa from the *Insularum illustratum*. Henrici Martelli Germani. 1489. Scale [ca. 860 m. = in.]. Size, 17.5 × 14.9 cm.

b. The Nile according to Diogo Homem. 1558. Scale [ca. 1100 m. = in.]. Size, 17.5 × 15.4 cm.

O. H. ii. No. 12. 1873. P. [376].

412. A map of the African lake region. Scale, 255 m. = in. Size, 25.7 × 24.1 cm. G. M. v. 1878. P. 145.

413. Part of central Africa north of the equator, from the general map of Africa by Keith Johnston, F. R. G. S. Scale, 135 m. = in. Size, 38.3 × 17 cm. Pp. ii. 1880. P. 336.

2. Barbary.

414. Morocco, from observations in 1830. Scale [24.7 m. = in.]. Size, 37.5 × 37.7 cm.

City of Morocco (Marraksh Blad Kibira). Scale [6,072 ft. = a.].

J. [i.]. 1830-31. No. 4. Art. x.

415. Part of the west coast of Africa, surveyed in 1835. Scale [ca. 46 m. = in.]. Size, 22.2 × 19.5 cm., and 14.9 × 19.5 cm. J. vi. 1836. P. 311.

416. Route of Sir Grenville Temple from Bónah to Kōstantīnah, in Algiers. 1838. Scale, 17 m. = in. Size, 11.8 × 17.5 cm. J. viii. 1838. P. 52.

417. Benzert lakes [Tunis]. Surveyed by Commander T. Graves. 1845. Scale [ca. 2 m. = in.]. Size, 31.5 × 45.2 cm. J. xvi. 1846. Art. xii.

418. Sketch of a route from Tripoli to Ghadamis by C. H. Dickson, British Vice-Consul. 1851. Scale [ca. 30 m. = in.]. Size, 25.7 × 19.3 cm. J. xxii. 1852. Art. ix.

419. Mission to Central Africa. The route from Tripoli to Kuka (near Lake Chád); performed by Dr. Edward Vogel, 1853-54. Scale [ca. 97 m. = in.]. Size, 19.4 × 37.3 cm. J. xxv. 1855. P. 244.

420. North Africa. Map showing the caravan routes between Tripoli and Ghadamis, to accompany the account of Ghadamis by C. H. Dickson, Esq. Scale, 30 m. = in. Size, 26.3 × 19.3 cm. J. xxx. 1860. P. 257.

421. Map of a part of the Sahara, illustrating a paper by M. H. Duveyrier. Scale, 1: 7,500,000 [1r8.37 m. = in.]. Size, 24.1 × 15.4 cm. O. Hh. i. 1873. P. 94.

3. Sahara.

422. West coast of Africa, to illustrate Captain Belcher's observations. Scale [ca. 115 m. = in.]. Size, 11.1 × 20.7 cm. J. ii. [1832.] Art. iv. (Misc.).

423. Part of the west coast of Africa, surveyed in 1835. Scale [ca. 46 m. = in.]. Size, 22.2 × 19.5 cm., and 14.9 × 19.5 cm. J. vi. 1836. P. 311.

424. Dr. Barth's route from Tin-Tellust to Agadéz. Scale, 1: 890,000 [14.04 m. = in.]. Size, 20.3 × 26 cm.

a. Outline of part of Africa showing the progress of the Mission to August, 1851. Scale [ca. 412 m. = in.]. Size, 9.5 × 15.3 cm.

b. Plan of Agadéz. Scale [ca. 1220 ft. = in.]. Size, ca. 6 × 5 cm. J. xxi. 1851. Art. xi.

425. Mission to Central Africa. The route from Tripoli to Kuka (near Lake Chád); performed by Dr. Edward Vogel, 1853-54. Scale [ca. 97 m. = in.]. Size, 19.4 × 37.3 cm. J. xxv. 1855. P. 244.

426. Map of the western Sahara. By E. G. Ravenstein, F. R. G. S. Scale, 1: 5,000,000 [78.91 m. = in.]. Size, 39.9 × 31.4 cm. G. M. iii. 1876. P. 13.

4. Sudan.

427. The rivers Kwóra and Chadda or Bínue, from the Nun mouth of the former to the country of Adamáwa on the latter; to illustrate the journal of Dr. William Balfour Baikie, R. N. Drawn by John Arrowsmith. 1855. Scale [ca. 52 m. = in.]. Size, 22.4 × 20.9 cm. J. xxv. 1855. P. 109.

428. Map to accompany notes of a journey from Bida, in Nupe, to Kano, in Haussa; performed by Dr. W. B. Baikie, R. N., 1862. Scale, 36 m. = in. Size, 26.4 × 19.4 cm. J. xxxvii. 1867. P. 92.

429. Map illustrating Dr. Nachtigall's travels, 1869-74. Chiefly from Dr. Nachtigall's maps published in the 'Zeitschrift' of the Berlin Geographical Society, and in Petermann's 'Mittheilungen.' By E. G. Ravenstein. Scale, 1: 5,000,000 [78.91 m. = in.]. Size, 40.7 × 48.4 cm. G. M. ii. 1875. P. 178.

430. Map of Lake Chad and neighbouring regions, to illustrate the paper by Dr. Nachtigall. Scale, 400 m. = in. Size, 11.5 × 19.9 cm. J. xlvi. 1876. P. 397.

5. Nile and Red Sea Districts.

431. Map of the Egyptian desert between Keneh and Suez. By J. Wilkinson, Esq. Scale [33.3 m. = in.]. Size, 19.8 × 22.9 cm. J. ii. [1832.] Art. ii.

432. Upper countries of the Nile, to illustrate M. Linant's journey. Scale, 111 m. = in. Size, 23 × 19.7 cm. J. ii. [1832.] Art. i. (Anal.).

433. Province of Sennar. Scale [ca. 66 m. = in.]. Size, 11.4 × 17.7 cm. J. v. 1835. P. 58.

434. The Red sea, from the late surveys. 1835. Scale [ca. 195 m. = in.]. Size, 11.3 × 17.4 cm. J. v. 1835. P. 296.

435. The Nile from Essuan to Al-Jeis, to illustrate a journey to Kordofán, by A. T. Holroyd, Esq., 1836-37. Scale [65.1 m. = in.]. Size, 11.4 × 19.5 cm. J. ix. 1839. P. 190.

436. [Sketch-map showing the direction of one of the dykes on the Nile.] Scale, *wanting*. Size, 5.2 × 1.8 cm. J. ix. 1839. P. 440. No. 2.

437. [Sketch-map of the plain of Thebes, showing the position of the temple and statues.] Scale, 450 ft. = in. Size, 9.3 × 3 cm. J. ix. 1839. P. 440. No. 4.

438. Wady Natrún, or valley of the natron lakes, by Sir J. G. Wilkinson, 1843. Scale, 6 m. = in. Size, 28.9 × 18.8 cm. J. xiii. 1843. Pt. i. Art. iv.

439. Map to illustrate the explorations in eastern Africa by Count Carl Krockow. Scale, 16 m. = in. Size, 20.4 × 22.9 cm. J. xxxvi. 1866. P. 200.

440. The peninsula of Mount Sinai. A sketch from observations on the ground, by the Rev. F. W. Holland, M. A. London: Stanford's Geographical Establishment. 1868. Scale, 8 m. = in. Size, 41.3 × 40.7 cm. J. xxxix. 1869. P. 343.

441. Map showing route of the electric telegraph from Suakin to Ra-sai. Reduced from the map by the late Captain L. Rokeyby, R. M. Scale, ca. 10 m. = in. Size, 17.5 × 44.5 cm. J. xlv. 1874. P. 153.

442. A traverse survey of the White Nile from Khartum to Rigaf by Lieutenants Watson and Chippendall, R. E. Scale, 36 m. = in. Size, 57.2 × 18 cm. J. xlvi. 1876. P. 413.

443. Map of routes in Kordofan and Darfur, constructed from the reconnaissances made by officers of the Egyptian General Staff 1875-76, by W. J. Turner. Scale, 1: 2,253,080 [35.56 m. = in.]. Size, 46 × 33 cm. J. xlix. 1879. P. 393.

6. Abyssinia and Somali.

(Including Afar.)

444. Isenberg and Krapf's route from Tájurrah to Shoá [Abyssinia] in 1840. Scale, 97 m. = in. Size, 11.6 × 13.1 cm. J. x. 1841. P. 455.

445. Sketch of a route from Ankober to Gédem [Abyssinia], to illustrate Dr. C. T. Beke's journal. 1842. Scale, 7.2 m. = in. Size, 11.3 × 20.1 cm. J. xii. 1842. Pt. i. Art. v. [vi.].

446. Map illustrating Dr. Beke's journey through Abyssinia, 1840-1843. Scale, 34 m. = in. Size, 34.4 × 41.2 cm. J. xiv. 1844. Art. i.

447. Sketch of the lower courses of the Jubb and Haines rivers, on the northeast coast of Africa. By Lieutenant W. Christopher, R. N., 1843. Scale, 46 m. = in. Size, 21.3 × 18.6 cm. J. xiv. 1844. Art. ii.

448. Sketch of the Regio aromatifera, to illustrate Mr. Cooley's paper. Scale [ca. 97 m. = in.]. Size, 23.3 × 19 cm. J. xix. 1849. Art. xvi.

449. [Abyssinian expedition, 1867-68.] Map

showing the line of march from the coast to Adigerat. Scale, 7 m. = in. Size, 36.7 × 32.3 cm.

J. xxxviii. 1868. P. 12.

450. [Abyssinian expedition, 1867-68.] Line of march from Adigerat to the River Takkazyè. Scale, 7 m. = in. Size, 57.3 × 19.3 cm.

J. xxxviii. 1868. P. 25.

451. [Abyssinian expedition, 1867-68.] Wadela and Dalanta plateaux and Mâgdala. Scale, 7 m. = in. Size, 18.9 × 19.1 cm. J. xxxviii. 1868. P. 35.

452. Map of part of Abyssinia, to illustrate Dr. Blanc's journey from Metemma to Damot. Scale, 19 m. = in. Size, 18.7 × 27.5 cm.

J. xxxix. 1869. P. 36.

453. Map of the Afar country, and the northern part of the Abyssinian highlands, to illustrate the journey of W. Munzinger, Esq., late H. B. M. Consul at Massowa. Scale, 14 m. = in. Size, 18.8 × 27.4 cm.

J. xxxix. 1869. P. 188.

454. [Sketch map of the countries bordering the southern portion of the Red sea and the Gulf of Aden, to show the districts producing myrrh.] Scale [ca. 186 m. = in.]. Size, 12 × 7.9 cm.

O. Hh. i. 1873. P. 11.

7. Upper Guinea and Senegambia.

455. The course of the Quorra, the Joliba, or Niger of Park, from the journals of Messrs. Richard and John Lander, with their route from Badagry to the northward, in 1830. Scale [ca. 48 m. = in.]. Size, 27.5 × 30.4 cm. J. [i.] 1830-31. Art. xiii.

456. West coast of Africa, to illustrate Captain Belcher's observations. Scale [ca. 115 m. = in.]. Size, 11.1 × 20.7 cm.

J. ii. [1832.] Art. iv. (Misc.)

457. Sketch to illustrate paper on the supposed junction of the Gambia and Casamanza rivers. Scale [ca. 50 m. = in.]. Size, 19.6 × 11.3 cm.

J. iii. 1833. Art. iv.

458. Part of Sûdan, shewing the supposed course of the Chadda from Lake Chad, by Captain W. Allen, R. N. Scale, 118 m. = in. Size, 16.3 × 18.8 cm. J. viii. 1838. P. 306.

459. Africa; the lower course of the river Kawara [Quorra]. 1841. Scale [51.1 m. = in.]. Size, 13.2 × 20.8 cm. J. xi. 1841. P. 184.

460. The Old Calabar, or Cross, river from Seven Fathoms Point to Ethiopie rapids. From a chart by Mr. J. B. King, surgeon of the Ethiopie steamer. 1842. Scale, 21 m. = in. Size, 22.4 × 19.4 cm.

J. xiv. 1844. Art. xiv.

461. Sketch of the mouths of the Jamoor river [Cameroon district]. Scale, 47 m. = in. Size, 9.9 × 16.2 cm. J. xvi. 1846. Art. xiii.

462. The rivers Kwóra and Chadda, or Binue, from the Nun mouth of the former to the country of Adamáwa on the latter; to illustrate the journal of Dr. William Balfour Baikie, R. N. Drawn by John Arrowsmith. 1855. Scale [ca. 52 m. = in.]. Size, 22.4 × 20.9 cm. J. xxv. 1855. P. 109.

463. Western Africa, to illustrate travels in the Yóruba and Núpe countries, performed by Daniel J. May, Esq., R. N. 1858. Scale, 27 m. = in. Size, 23.5 × 19.2 cm. J. xxx. 1860. P. 212.

464. Map of the British territories on the Gold and Slave coasts (Western Africa), with portions of Ashanti, Dahome, and Yoruba. Compiled by E. G. Ravenstein, F. R. G. S. Scale, 1: 2,000,000 [31.57 m. = in.]. Size, 49.6 × 25.2 cm.

O. Hh. i. 1873. P. 148.

465. Map of the former Dutch possessions on the Gold Coast, comprising the country between Axim and El-Mina. By Lieutenant C. A. Jeekel, R.

Dutch Navy. Scale, 1: 250,000 [3.95 m. = in.]. Size, 47 × 28.1 cm. O. Hh. i. 1873. P. 284.

466. Map of the route from Cape Coast Castle to Kumassi [Gold coast]. From a map prepared at the Topographical Department of the War Office, and based upon reconnaissance surveys by officers with the expeditionary force. Scale, 1: 750,000 [11.84 m. = in.]. Size, 17.2 × 26.6 cm.

O. Hh. i. 1873. P. 448.

467. A map of the lower Volta river (Western Africa). By E. G. Ravenstein. This map is based mainly upon the admiralty charts, the published maps of the missionaries Locher and Plessing, and Hornberger and Brutschin, and a MS. map by H. Laissle, architect and engineer of the Basel Miss. Soc., dated Akropong, March, 1862. Scale, 1: 750,000 [11.84 m. = in.]. Size, 25.6 × 19.8 cm.

O. Hh. i. 1873. P. 454.

468. Chart of creeks and rivers between Bonny and Brass rivers [Niger delta]. Surveyed by R. D. Boler and R. Knight. September, 1874. Scale, 8.6 m. = in. Size, 21.3 × 19.2 cm.

J. xlvi. 1876. P. 411.

469. Map of the Volta [western Africa] from a map by M. J. Bonnat. Published in L'Explorateur. Scale [ca. 12 m. = in.]. Size, 13.8 × 45 cm.

G. M. iii. 1876. P. 291.

470. West Africa. The vicinity of Mount Cameroons from a drawing by the Rev. T. J. Comber, Baptist Missionary Society. 1877. Scale, 10.5 m. = in. Size, 23.6 × 21.4 cm. Pp. i. 1879. P. 288.

471. Map of the Cameroons district, to illustrate the paper by Mr. George Greenfell. Scale, 7.7 m. = in. Size, 36 × 26.1 cm. Pp. iv. 1882. P. 648.

8. Equatorial Africa.

A. Western.

472. Map of southern central Africa. By James McQueen, Esq. 1856. Scale [ca. 174 m. = in.]. Size, 29.9 × 19.2 cm. J. xxvi. 1856. P. 109.

473. Central Africa; showing the route of Silva Porto from Benguela to Cape Delgado, in 1853-54; also the sources of the Nile, and the countries around them, by James Macqueen, Esq. Scale [ca. 196 m. = in.]. Size, 37.1 × 26.1 cm.

J. xxx. 1860. P. 136.

474. Map illustrating M. du Chailly's routes in equatorial Africa in 1864-65. Scale, 11.5 m. = in. Size, 41.1 × 20.3 cm.

Sketch map of part of western Africa. Scale [ca. 270 m. = in.]. Size, 6.6 × 6.4 cm.

J. xxxvi. 1866. P. 64.

475. Dr. Livingstone's routes, 1866 to 1872. By A. Keith Johnston. Scale, 148 m. = in. Size, 20.6 × 27.8 cm. O. H. ii. No. 4. 1872. P. [102].

476. Sketch map illustrating Dr. G. Schweinfurth's travels in the country of the Niam Niam and in Dar Fertit. 1869-1871. Constructed by E. G. Ravenstein. Scale, 1: 4,000,000 [63.13 m. = in.]. Size, 19.6 × 30.6 cm.

[Sketch map of central Africa, showing Dr. Schweinfurth's routes.] Scale [ca. 458 m. = in.]. Size, 12.2 × 11.3 cm.

O. H. ii. No. 8. 1872. P. 247

477. The valley of the Congo. Drawn for "Ocean highways: the geographical record," by Lieutenant Grandy, R. N. Scale, 100 m. = in. Size, 30.1 × 20.4 cm.

O. H. ii. No. 9. 1872. P. 274.

478. Map of tropical south Africa, illustrating the progress of geographical discovery. By E. G. Ravenstein, F. R. G. S. Scale, 1: 10,000,000 [157.83 m. = in.]. Size, 41.5 × 29.1 cm.

G. M. ii. 1875. P. 1.

479. Map illustrating Dr. Nachtigall's travels, 1869-74. Chiefly from Dr. Nachtigall's maps published in the 'Zeitschrift' of the Berlin Geographical Society and in Petermann's 'Mittheilungen.' By E. G. Ravenstein. Scale, 1: 5,000,000 [78.91 m. = in.]. Size, 40.7 × 48.4 cm.

G. M. ii. 1875. P. 178.
480. Reduction of Lieutenant Cameron's preliminary map of his route, and the adjacent country, between Lake Tanganyika and Lovale, 1874-75; with continuation from the maps of Dr. Livingstone and other travellers. Scale, 48 m. = in. Size, 71.8 × 38.2 cm. P. xx. 1875-76. P. 119.

481. West Africa. Reduction of Lieutenant Grandy's map of his route from Ambriz to the River Congo, 1873-74. Scale, 23 m. = in. Size, 34.6 × 29.1 cm. J. xlvi. 1876. P. 428.

482. Chart of the Quanza river from the bar to the Livingstone falls. Surveyed and drawn by Carl Alexanderson, 1873-74. Scale, 5 m. = in. Size, 65.3 × 18.7 cm. J. xlvi. 1876. P. 429.

483. Stanley's map of the Congo river, 1876-77. Reduced from the map published in the "Daily Telegraph." Scale [ca. 130 m. = in.]. Size, 25.8 × 18 cm. G. M. iv. 1877. P. 318.

484. Map of the upper Binué river, from a survey by Mr. E. R. Flegel, of the Church Missionary Society's expedition, 1879; in continuation of Admiralty chart no. 2446 on same scale. Scale, 4.6 m. = in. Size, 81.9 × 22.5 cm. Pp. ii. 1880. P. 336.

485. West Africa. Sketch map of explorations in the neighbourhood of St. Salvador (Congo), by the Rev. T. J. Comber, 1880. Scale, 33 m. = in. Size, 41.8 × 22 cm. Pp. iii. 1881. P. 64.

486. [Sketch map of the Nyam Nyam country, to illustrate Dr. Junker's journey.] Scale [ca. 137 m. = in.]. Size, 5.4 × 6.6 cm. Pp. iii. 1881. P. 301.

487. Buchner's and Pogge's routes in West Africa, 1878-81. Scale, 1: 8,000,000 [126.26 m. = in.]. Size, 19 × 10.7 cm. Pp. iv. 1882. P. 679.

488. The Congo river from its mouth to Bolobo, to illustrate the journeys of Mr. H. H. Johnston. Scale, ca. 40 m. = in. Size, 43.3 × 21.3 cm. Pp. v. 1883. P. 632.

489. Physical map of west coast of Africa, by H. H. Johnston. Scale [ca. 229 m. = in.]. Size, 11 × 21.3 cm. Pp. v. 1883. P. 752.

490. Pogge and Wissmann's route from Kasai to Nyangwe, 1881-82. From Lieutenant Wissmann's original sketches. Scale, 1: 2,000,000 [31.57 m. = in.]. Size, 36.2 × 20 cm.

Lake Mankamba. Scale, 1: 400,000 [6.31 m. = in.]. Size, 3.8 × 2.8 cm. Pp. v. 1883. P. 184.

B. Eastern.

491. Upper countries of the Nile, to illustrate M. Linant's journey. Scale, 111 m. = in. Size, 23 × 19.7 cm. J. ii. [1832.] Art. i. (Anal.).

492. Sketch of the countries south of Abyssinia; (from oral information collected in Gojam) by Dr. Beke. 1843. Scale, 62 m. = in. Size, 11 × 17.4 cm. J. xiii. 1843. Pt. 2. Art. iv.

493. Map of the countries south of Abyssinia, drawn under the dictation of 'Omair ibn Nedjât by Dr. Beke. Yejubbi, 9th February, 1843. Scale, wanting. Size, 16.1 × 19.8 cm. J. xvii. 1847. Art. i.

494. The sea of Uniamesi, etc. By the Rev. Messrs. Erhardt and Rebman, of the Church Missionary Society, 1855. Scale [ca. 180 m. = in.]. Size, 22.8 × 18.5 cm. P. i. 1855-57. [P. 8.]

495. Map of southern central Africa. By James McQueen, Esq. 1856. Scale [ca. 174 m. = in.]. Size, 29.9 × 19.2 cm. J. xxvi. 1856. P. 109.

496. East Africa expedition. Pangani to Fuga; a route survey by Captains Burton and Speke, 1857. Scale, 8.5 m. = in. Size, 18.4 × 11.9 cm.

Pangani to Chogwe. Scale, 3 m. = in. Size, 9.2 × 3.3 cm. J. xxviii. 1858. P. 188.

497. East Africa expedition. Map of the routes between Zanzibar and the great lakes in eastern Africa, in 1857, 1858, and 1859, by Captains R. F. Burton and J. H. Speke. Constructed from the observations of Captain Speke by A. G. Findlay, F. R. G. S. Scale, 34 m. = in. Size, 60.2 × 37.8 cm. J. xxix. 1859. P. 464.

498. Central Africa; showing the route of Silva Porto from Benguela to Cape Delgado, in 1853-54; also the sources of the Nile, and the countries around them, by James Macqueen, Esq. Scale [ca. 196 m. = in.]. Size, 37.1 × 26.1 cm. J. xxx. 1860. P. 136.

499. Sources of the Nile. Rough sketch of countries north and south of the equator on the meridian of Khartum. Scale, 240 m. = in. Size, 12 × 19 cm. [Sketch map of Africa for comparison.] Scale [ca. 4,000 m. = in.]. Size, 3.6 × 3.5 cm. P. v. 1860-61. P. 20.

500. Map of the routes in eastern Africa between Zanzibar, the great lakes, and the Nile. Explored and surveyed by Captain J. H. Speke, 1857-1863. Scale, 30 m. = in. Size, 58.4 × 75 cm. J. xxxiii. 1863. P. 322 [346].

501. Map of the snowy mountains Kilima-ndjaro, illustrating the paper of Baron C. Von der Decken. Scale, 8.35 m. = in. Size, 19.4 × 19.4 cm. Sketch map of Baron C. Von der Decken's journeys from the east coast of Africa to Mt. Kilima-ndjaro. Scale, 76 m. = in. Size, 6.6 × 6.5 cm. J. xxxiv. 1864. P. 1.

502. The Nile and its western affluents, between the Albert Nyanza on the south, and the Sobat on the north; founded on the astronomical observations, bearings, and distances of John Petherick, Esq., as well as numerous other documents; constructed by John Arrowsmith. 1865. Scale, 37 m. = in. Size, 20 × 35.8 cm. J. xxxv. 1865. P. 289.

503. A map of the Albert N'yanza and of the routes leading to its discovery in 1864. By Samuel White Baker, Esq. Scale, 32.5 m. = in. Size, 33.1 × 47.7 cm. P. x. 1865-66. [P. 7.]

504. A map of the Albert N'yanza, and of the routes leading to its discovery in 1864. By Samuel White Baker, Esq. Scale, 33 m. = in. Size, 33.1 × 48.7 cm. J. xxxvi. 1866. P. 1.

505. Sketch of the supposed route of Dr. Livingstone, and probable place of the attack by the Mavite. By J. Kirk, M.D., H. M. Vice Consul, Zanzibar. Scale, 72 m. = in. Size, 18.8 × 11.4 cm. P. xi. 1866-67. P. 125.

506. The east African lakes, shewing their relation to the source of the Nile. Scale, 244 m. = in. Size, 13.6 × 19.2 cm. No. 1. Burton and Speke, May, 1858. Scale [ca. 117 m. = in.]. Size, 12 × 19 cm.

No. 2. Speke, 1859. Scale [ca. 117 m. = in.]. Size, 13.1 × 19 cm.

No. 3. Speke and Grant, 1863. Scale [ca. 117 m. = in.]. Size, 8.8 × 18.9 cm.

No. 4. Sir S. W. Baker, 1864. Scale [ca. 117 m. = in.]. Size, 10.1 × 19 cm. J. xxxvii. 1867. P. 193.

- 507.** A map showing the routes of some native caravans from the coast into the interior of eastern Africa, from information collected by the Rev. T. Wakefield, missionary at Mombása; also of two personal journeys to the southern Galla country, made by the Revs. T. Wakefield and C. New in 1865 and 1866-67. Scale, 33 m. = in. Size, 48.2 × 39.7 cm. J. xi. 1870. P. 303.
- 508.** Dr. Livingstone's routes, 1866 to 1872. By A. Keith Johnston. Scale, 148 m. = in. Size, 20.6 × 27.8 cm. O. H. ii. No. 4. 1872. P. [102].
- 509.** A sketch to show the relation of the Luabala to the other rivers of Africa. Scale, 410 m. = in. Size, 20.5 × 29.3 cm. O. H. ii. No. 6. 1872. P. 173.
- 510.** Dr. Livingstone's recent discoveries, and the former English and Portuguese routes in the lake region. Scale, 110 m. = in. Size, 20.5 × 29.3 cm. O. H. ii. No. 6. 1872. P. 174.
- 511.** Sketch map illustrating Dr. G. Schweinfurth's travels in the country of the Niam Niam and in Dar Fertit. 1869-1871. Constructed by E. G. Ravenstein. Scale, 1: 4,000,000 [63.13 m. = in.]. Size, 19.6 × 30.6 cm. [Sketch map of central Africa, showing Dr. Schweinfurth's routes.] Scale [ca. 458 m. = in.]. Size, 12.2 × 11.3 cm. O. H. ii. No. 8. 1872. P. 247.
- 512.** [Sketch map showing Mr. Stanley's routes eastward of Lake Tanganyika.] Scale [ca. 65 m. = in.]. Size, 11 × 5.3 cm. O. H. ii. No. 9. 1872. P. 280.
- 513.** [Sketch map showing Mr. Stanley's route from Bagamoyo to the Usagara mountains.] Scale [ca. 440 m. = in.]. Size, 9.3 × 5.1 cm. O. H. ii. No. 9. 1872. P. 280.
- 514.** [Sketch map of the northern end of Lake Tanganyika.] Scale, 14 m. = in. Size, 6.4 × 7.7 cm. O. H. ii. No. 9. 1872. P. 281.
- 515.** Sketch map shewing the route of Sir Samuel Baker [from Gondokoro to Masindi], 1871-73. Scale, 33 m. = in. Size, 16.4 × 26.6 cm. O. H. i. 1873. P. 221.
- 516.** Map of the two main mouths of the River Lufigi [East Africa]. From a sketch by Captain Wharton, H. M. S. Shearwater. Scale, 4 m. = in. Size, ca. 9 × 16 cm. P. xviii. 1873-74. P. 75.
- 517.** (East coast of Africa.) The slave caravan route from Dar-es-Salam to Kiliwa [Zangebar], to accompany the paper by Captain F. Elton. Scale, 96 m. = in. Size, 19.2 × 39.8 cm. J. xlv. 1874. P. 227.
- 518.** Sketch map shewing Lieutenant Cameron's route to Lake Tanganyika. Scale, 1: 1,500,000 [23.66 m. = in.]. Size, 25.5 × 17.6 cm. G. M. i. 1874. P. 180.
- 519.** Map of Lake Tanganyika from Ujiji to its southern extremity. Reduced from the map by Lieutenant V. Lovett Cameron, R.N. Scale, 11.5 m. = in. Size, 18.1 × 74.4 cm. P. xix. 1874-75. P. 75.
- 520.** Sketch map of route from Gondokoro to Dufli, by J. Kemp, Esq., September-October, 1874. Scale, ca. 1: 850,000 [13.41 m. = in.]. Size, ca. 9 × 15 cm. P. xix. 1874-75. P. 325.
- 521.** Map of Lake Tanganyika from Ujiji to its southern extremity. Reduced from the map by Lieutenant V. Lovett Cameron, R.N. Scale, 11.5 m. = in. Size, 18.1 × 74.2 cm. J. xlv. 1875. P. 184.
- 522.** Track and soundings of steam cutter up the Rufiji River, by Captain Sulivan, R.N., assisted by Sub-Lieutenant F. J. Grassie, R.N., H. M. S. "London," 24th February, 1875. Scale, *wanting*. Size, 11 × 19.4 cm. J. xlv. 1875. P. 365.
- 523.** Map of tropical South Africa, illustrating the progress of geographical discovery. By E. G. Ravenstein, F.R.G.S. Scale, 1: 10,000,000 [157.83 m. = in.]. Size, 41.5 × 29.1 cm. G. M. ii. 1875. P. 1.
- 524.** Map of the southern Tanganyika, from a sketch survey by Lieutenant V. Lovett Cameron, R.N. Scale, 1: 1,000,000 [15.78 m. = in.]. Size, 28.7 × 46.2 cm. Lake Tanganyika, according to Dr. Livingstone and Lieutenant Cameron. Scale [ca. 62 m. = in.]. Size, 11.3 × 15.8 cm. G. M. ii. 1875. P. 72.
- 525.** The dominions of the Seyyid Barghash Bin Said of Zanzibar. By E. G. Ravenstein. Scale, 1: 3,430,000 [54.13 m. = in.]. Size, 19.2 × 36.8 cm. The Sonali coast. Scale, 1: 3,430,000 [54.13 m. = in.]. Size, 10.5 × 9.5 cm. G. M. ii. 1875. P. 208.
- 526.** Map of the Victoria Nyanza, principally according to H. M. Stanley, by E. G. Ravenstein. Scale, 1: 2,000,000 [31.57 m. = in.]. Size, 26.1 × 22.9 cm. G. M. ii. 1875. P. 369.
- 527.** Map of the regions of the upper Nile. From the explorations of Burton, Speke, Grant, Baker, Kemp, Marno, Long, Stanley, Cameron, and others. By E. G. Ravenstein. Scale, 1: 4,000,000 [63.13 m. = in.]. Size, 23.7 × 31.9 cm. G. M. ii. 1875. P. 373.
- 528.** Reduction of Lieutenant Cameron's preliminary map of his route, and the adjacent country, between Lake Tanganyika and Lovalé, 1874-75; with continuation from the maps of Dr. Livingstone and other travellers. Scale, 48 m. = in. Size, 71.8 × 38.2 cm. P. xx. 1875-76. P. 119.
- 529.** Stanley's map of the Victoria Nyanza adapted to the observations and topography of Captain Speke and Colonel Grant by W. J. Turner. Scale, 34 m. = in. Size, 24.7 × 19.8 cm. P. xx. 1875-76. P. 135.
- 530.** Map of the Victoria Nyanza as delineated by Mr. H. M. Stanley. Scale, 44 m. = in. Size, 18.3 × 19.8 cm. P. xx. 1875-76. P. 135.
- 531.** Map of the Victoria Nyanza, compiled from the original maps of Captain Speke, Colonel Grant, and Mr. Stanley, adapted to the recorded observations of Captain Speke by W. J. Turner. Scale, 33.5 m. = in. Size, 24.6 × 19.8 cm. J. xlvi. 1876. P. 11.
- 532.** Map of the north-west portion of the Victoria Nyanza, constructed from Colonel Grant's original map and bearings, adapted to the astronomical observations of Captain Speke by W. J. Turner. Scale, 24 m. = in. Size, 15.5 × 18.1 cm. J. xlvi. 1876. P. 13.
- 533.** A traverse survey of the White Nile from Khartum to Rigaf by Lieutenants Watson and Chippendall, R.E. Scale, 36 m. = in. Size, 57.2 × 18 cm. J. xlvi. 1876. P. 413.
- 534.** Map of the White Nile from Lardo to Urondogani, by Colonel Gordon, C.B., R.E. Surveyed in 1875-76. Scale, 35 m. = in. Size, 15.9 × 26 cm. J. xlvi. 1876. P. 431.
- 535.** The country between Tanganyika and Nyangwe according to Livingstone and Cameron. By E. G. Ravenstein. Scale, 1: 2,000,000 [31.57 m. = in.]. Size, 24.8 × 16.4 cm. G. M. iii. 1876. P. 57.
- 536.** Map of the Victoria and Albert Nyanzas, to illustrate the last discoveries of H. M. Stanley. Scale, 1: 3,250,000 [51.10 m. = in.]. Size, 22.8 × 26.5 cm.

- [Map of the southwestern portion of the Victoria Nyanza.]
Scale [ca. 32 m. = in.]. Size, 6.4 × 10 cm.
G. M. iii. 1876. P. 245.
- 537.** R. Gessi's survey of the Albert Nyanza, from the maps published by the Egyptian General Staff (General Stone). Scale, 1: 1,000,000 [15.78 m. = in.]. Size, 22.7 × 37.2 cm.
G. M. iii. 1876. P. 247.
- 538.** Map of the upper Nile, to illustrate the reports of Colonel Gordon and M. Gessi, by W. J. Turner. Scale, 58 m. = in. Size, 11.5 × 18 cm.
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- 539.** Map of the Rufu or Kingani river (eastern Africa), to accompany the paper by Frederick Holmwood, Esq. Scale, 6 m. = in. Size, 18.9 × 23.6 cm.
J. xlviii. 1877. P. 253.
- 540.** The Nile from M'ruli to Dufi, from croquis by General Gordon Pasha. 1876. Scale, 15.5 m. = in. Size, 15.4 × 24 cm.
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- 541.** Map of the Alexandria Nile, by H. M. Stanley. Scale, 1: 2,000,000 [31.57 m. = in.]. Size, 16.9 × 15.9 cm.
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- 542.** A sketch map of the country round Lake Nyassa. Scale, 38 m. = in. Size, 46.4 × 50.9 cm.
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- 543.** Map of the Lukuga, by H. M. Stanley. Scale, 1: 100,000 [1.58 m. = in.]. Size, 16.1 × 16.1 cm.
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- 544.** East Africa. Sketch map of route from Lake Nyassa to Ugogo, by Mr. H. B. Cotterill. Scale, 29 m. = in. Size, 19 × 26.6 cm.
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- 545.** Sketch map of country between Kilwa Kavinje and River Rovouma, by Alfred Bellville, F. R. G. S., late Universities Mission to L. Nyassa. Scale [ca. 34 m. = in.]. Size, 24.7 × 17.6 cm.
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- 546.** East Africa. Map of southern Usambara by the Rev. J. P. Farler. Scale, ca. 10 m. = in. Size, 19 × 10.7 cm.
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- 547.** Route survey of the western side of Lake Nyassa by Mr. James Stewart, C. E., Livingstonia mission. 1878. Scale, 13 m. = in. Size, 22.5 × 50 cm.
Northern continuation of Nyassa on a smaller scale, to illustrate Dr. Stewart's paper. Scale, 37 m. = in. Size, 5.2 × 11.4 cm.
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- 548.** East Africa. Sketch map of native routes from Dar-es-Salaam towards the head of Lake Nyassa, from information obtained by Mr. Keith Johnston, R. G. S. East African Expedition, 1879. Scale, 35 m. = in. Size, 34.4 × 21.5 cm.
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- 549.** East Africa. Map of Mr. Keith Johnston's route in southern Usambara, 1879, reduced from his original drawing. Scale, 10.5 m. = in. Size, 20.1 × 13 cm.
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- 550.** Sketch map of the route of the R. G. S. East African Expedition from Dar-es-Salaam to Lake Nyassa, 1879. Scale, 35.5 m. = in. Size, 34.4 × 21.5 cm.
Pp. ii. 1880. P. 144.
- 551.** Route survey between lakes Nyassa and Tanganyika by Mr. James Stewart, C. E., Livingstonia mission. 1879. Scale, 13 m. = in. Size, 46.1 × 22.8 cm.
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- 552.** Route survey of the western side of Lake Nyassa (northern portion) by Mr. James Stewart, C. E., Livingstonia mission. 1879. Scale, 13 m. = in. Size, 22.3 × 35.6 cm.
Pp. ii. 1880. P. 464.
- 553.** Map of the route of the R. G. S. East African expedition to lakes Nyassa and Tanganyika, constructed from Mr. Thomson's original map col-
- lated with the routes of other explorers by W. J. Turner. Scale, 42 m. = in. Size, 50.1 × 22.1 cm.
Pp. ii. 1880. P. 784.
- 554.** Map of route from Kagéi to Tabora, by Rev. C. T. Wilson, 1877; to illustrate his paper at page 616. Scale, 25 m. = in. Size, 9.7 × 21.3 cm.
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- 555.** [Sketch map of the Nyam Nyam country, to illustrate Dr. Junker's journey.] Scale [ca. 137 m. = in.]. Size, 5.4 × 6.6 cm.
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- 556.** Map of the north end of Lake Nyassa, surveyed by Mr. James Stewart, C. E., Livingstonia Mission. 1880. Scale, 12.5 m. = in. Size, 25 × 21.8 cm.
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- 557.** Route through northern Ugogo (August, 1879), by E. J. Southon, M.D. Scale, 27.6 m. = in. Size, 10.6 × 5.7 cm.
Dr. Southon's route combined with the routes of other explorers. Scale [ca. 48 m. = in.]. Size, 6.1 × 2.9 cm.
Pp. iii. 1881. P. 547.
- 558.** Sketch map of the River Rufugi, from a survey by W. Beardall, Zanzibar, March, 1881. Scale, 1: 558,195 [8.8 m. = in.]. Size, 50 × 21.5 cm.
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- 559.** Lake Tanganyika. From a survey by Mr. Edward C. Hore, Master Mariner, of the London Missionary Society. Scale, 23 m. = in. Size, 21 × 46.1 cm.
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- 560.** The southern part of Lake Tanganyika (Lake Liemba of Dr. Livingstone). From a survey by Mr. Edward C. Hore, Master Mariner, of the London Missionary Society. Scale, 5.76 m. = in. Size, 28.6 × 35.9 cm.
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- 561.** East Africa. Sketch map illustrating a journey into the district of Nguru, by Mr. J. T. Last. Scale, 11.5 m. = in. Size, 38.4 × 39.2 cm.
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- 562.** The lakes of Sigirso near Malindi [Galla country]. From a sketch survey by the Rev. T. Wakefield, 1877. Scale, 1: 129,000 [2.03 m. = in.]. Size, 19 × 10.7 cm.
Mr. Wakefield's route from Ribe to Malindi, 1877. Scale, 1: 2,000,000 [31.57 m. = in.]. Size, 6 × 6.6 cm.
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- 563.** Native routes to the Masai country and to the Victoria Nyanza. From information obtained by the Ven'ble J. P. Farler. Scale, 1: 2,000,000 [31.57 m. = in.]. Size, 30 × 26.3 cm.
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- 564.** Africa. East coast. Map illustrating Mr. O'Neill's journey into the Mavia country, September-October, 1882. Scale, 7.6 m. = in. Size, 35.2 × 19.2 cm.
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- 565.** East Africa. Sketch map illustrating the journeys of Mr. J. T. Last and Dr. E. J. Baxter into the Masai country. Scale, 11.5 m. = in. Size, 33.3 × 21.9 cm.
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9. South Africa.

A. Tropical Region.

- 566.** Outline map of southern Africa, to illustrate the analysis of Captain Owen's voyage. Scale [ca. 380 m. = in.]. Size, 22.2 × 19.7 cm.
J. iii. 1833. Art. i. (Anal.).
- 567.** Sketch of South Africa, to illustrate paper by W. D. Cooley, Esq. Scale [ca. 224 m. = in.]. Size, 21.8 × 16.8 cm. J. iii. 1833. Art. x. (Misc.).

- 568.** Map of Nyassi, or the great lake of southern Africa, with the country between it and the eastern coast, exhibiting also the line of communication between the Quanza, in Angola, and the Zambezi, in the government of Mozambique. By W. Desborough Cooley. Scale [ca. 27 m. = in.]. Size, 37.1 × 21.4 cm. J. xv. 1845. Art. iv.
- 569.** Route of Messrs. Livingston, Oswell, and Murray to Lake Nğami. 1849. Scale, 84 m. = in. Size, 11.7 × 18.6 cm. J. xx. 1851. Arts. ix., x.
- 570.** Africa, between 10° and 30° south latitude. Map to illustrate the routes of Francis Galton, Esq., Messrs. Livingston and Oswell, and W. Henry Gassiot, Esq. 1852. Scale, 188 m. = in. Size, 26 × 18.7 cm. J. xxii. 1852. Arts. xi., xii.
- 571.** Exploration of Africa. Sketch of a route from the river Chobé to Loando, performed by the Rev. Dr. Livingstone, 1853-54. Scale [ca. 146 m. = in.]. Size, 21.2 × 20.3 cm. J. xxiv. 1854. P. 306.
- 572.** Map to illustrate explorations in South Africa from Walvisch bay to Lake Ngami, etc., by C. I. [J.] Andersson, Esq. 1854. Scale, 84 m. = in. Size, 25.3 × 20.1 cm. J. xxv. 1855. P. 79.
- 573.** Exploration of Africa. Sketch of a route from the Barotse valley, on the River Lecambe, to Loando; performed by the Rev. Dr. Livingstone. Scale, 75 m. = in. Size, 29.4 × 19.2 cm. J. xxv. 1855. P. 236.
- 574.** Map to illustrate a visit to Moselekatse, King of the Matebele, by the Rev. R. Moffat. 1856. Scale [ca. 57 m. = in.]. Size, 23.1 × 19.6 cm. J. xxvi. 1856. P. 84.
- 575.** Map of southern central Africa. By James McQueen, Esq. 1856. Scale [ca. 174 m. = in.]. Size, 29.9 × 19.2 cm. J. xxvi. 1856. P. 109.
- 576.** Map to illustrate Dr. Livingstone's route across Africa; constructed from his astronomical observations, bearings, estimated distances, sketches, etc., etc., by J. Arrowsmith. 1857. Scale, 110 m. = in. Size, 41.1 × 19.6 cm. J. xxvii. 1857. P. 349.
- 577.** East Africa expedition. Map of the routes between Zanzibar and the great lakes in eastern Africa, in 1857, 1858, and 1859, by Captains R. F. Burton and J. H. Speke. Constructed from the observations of Captain Speke by A. G. Findlay, F. R. G. S. Scale, 34 m. = in. Size, 60.2 × 37.8 cm. J. xxix. 1859. P. 464.
- 578.** Central Africa; showing the route of the Silva Porto from Benguela to Cape Delgado, in 1853-54; also the sources of the Nile, and the countries around them, by James Macqueen, Esq. Scale [ca. 196 m. = in.]. Size, 37.1 × 26.1 cm. J. xxx. 1860. P. 136.
- 579.** Africa. The course of the River Shire, below Lake Nyassa, and the River Zambesi, below Kabrabasa; to illustrate the papers of Dr. David Livingstone. Scale, 52 m. = in. Size, 13.3 × 18.9 cm. J. xxxi. 1861. P. 256.
- 580.** River Zambesi at Bandari rock. Scale [ca. 900 ft. = in.]. Size, ca. 4.5 × 5 cm. J. xxxi. 1861. P. 281.
- 581.** Map of South Africa, to illustrate the paper by James Fox Wilson, Esq., and Dr. Livingstone's theory of ancient lakes. Scale, 263 m. = in. Size, 22 × 19.8 cm. J. xxxv. 1865. P. 107.
- 582.** (South eastern Africa) Lake Nyassa, the River Shire, etc., from the MS. map by Dr. Kirk. Scale, 54.5 m. = in. Size, 14.4 × 25.9 cm. J. xxxv. 1865. P. 167.
- 583.** Sketch map of Mr. Baines' routes between the Limpopo and Zambesi rivers. Scale, 52 m. = in. Size, 17.9 × 33 cm. J. xli. 1871. P. 100.
- 584.** Map of route from the Tati settlement to Delagoa bay, to illustrate the paper by Captain F. Elton. Scale, 34 m. = in. Size, 34.3 × 29.6 cm. J. xlii. 1872. P. 1.
- 585.** Dr. Livingstone's routes, 1866 to 1872. By A. Keith Johnston. Scale, 148 m. = in. Size, 20.6 × 27.8 cm. O. H. ii. No. 4. 1872. P. [102].
- 586.** Route map of the Gasa country (south eastern Africa), illustrating the journey to Umzila, King of Gasa. Reduced from the original map constructed by Mr. St. Vincent Erskine. Scale, 36 m. = in. Size, 26.6 × 34.9 cm. J. xlv. 1875. P. 45.
- 587.** Map of tropical South Africa, illustrating the progress of geographical discovery. By E. G. Ravenstein, F. R. G. S. Scale, 1: 10,000,000 [157.83 m. = in.]. Size, 41.5 × 29.1 cm. G. M. ii. 1875. P. 1.
- 588.** Sketch map of Lake Nyassa by Mr. E. D. Young, 1876. Scale [ca. 29 m. = in.]. Size, 11 × 37.2 cm. P. xx. 1875-76. P. 451.
- 589.** Map of a portion of South Africa, illustrative of Lieutenant Cameron's route from Lake Tanganyika to the west coast. By E. G. Ravenstein, F. R. G. S. Scale, 1: 5,000,000 [78.91 m. = in.]. Size, 46 × 25.7 cm. G. M. iii. 1876. P. 57.
- 590.** A sketch map of the country round Lake N'nyassa. Scale, 38 m. = in. Size, 46.4 × 50.9 cm. G. M. iv. 1877. P. 206.
- 591.** Map of the Bamangwato country, to illustrate Captain Patterson's paper. Scale, 65 m. = in. Size, 29 × 22 cm. Pp. i. 1879. P. 288.
- 592.** Map of South Africa, illustrating the journey of Major Serpa Pinto from Benguela to Natal, 1877-79, by W. J. Turner. Scale, 178 m. = in. Size, 29.3 × 21.8 cm. Pp. i. 1879. P. 544.
- 593.** Map of the central portion of South Africa, illustrating Dr. Holub's journeys, 1873-79; constructed from his original drawings, collated with the routes of other travellers and the most recent material, by W. J. Turner. Scale, 80 m. = in. Size, 22.3 × 37.4 cm. Pp. ii. 1880. P. 400.
- 594.** Sketch map of the Okavango river by Père Duparquet. Scale, 63 m. = in. Size, 16.1 × 10.8 cm. Pp. iii. 1881. P. 44.
- 595.** General map of South Africa, by W. J. Turner, showing the comparative distances from Cape Town with those of European cities from London. Scale, 212 m. = in. Size, 25.7 × 21.9 cm. Pp. iii. 1881. P. 64.
- 596.** Central Africa. Map of the central Zambesi region, constructed from the route-surveys and observations of Livingstone, Baines, Mohr, Piuto, Holub, and other travellers, combined with the sketches of Mr. F. C. Selous, by W. J. Turner. Scale, 60 m. = in. Size, 22.4 × 21.4 cm. Pp. iii. 1881. P. 192.
- 597.** Central Africa. Sketch map of the Chobe river by Dr. Benjamin F. Bradshaw. 1880. Scale, 2 m. = in. Size, 19 × 21.2 cm. Pp. iii. 1881. P. 256.
- 598.** Routes in the Mashuna and Matabele countries, by F. C. Selous. Scale, 1: 3,500,000 [55.24 m. = in.]. Size, 10.8 × 11.8 cm. Pp. iii. 1881. P. 353.
- 599.** Map of the Rovuma river and the region to the south, illustrating the journeys of Mr. Joseph Thomson and the Rev. Chauncy Maples, A.M. Scale, 15 m. = in. Size, 46.2 × 45.1 cm. Pp. iv. 1882. P. 128.
- 600.** General map of the Makua country, from a sketch by H. E. O'Neill, H. M. Consul at Mozambique. Scale, 46 m. = in. Size, 23.4 × 22.1 cm. Pp. iv. 1882. P. 256.
- 601.** Route map illustrating a journey into the

Makua country, by H. E. O'Neill, H. M. Consul at Mozambique. Scale, 23 m. = in. Size, 33.6 × 12.8 cm. Pp. iv. 1882. P. 256.

602. Route from Senna to the gold mines of Manica [Zambesi country]. From a survey by M. Kuss, member of Paiva de Andrada's Zambesi expedition. Scale, 1: 2,000,000 [31.57 m. = in.]. Size, 13.8 × 10.7 cm. Pp. iv. 1882. P. 373.

603. Paiva de Andrada's Zambesi expedition. Routes to Maxinga and the Mazoe. From sketches by M. Kuss. 1881. Scale, 1: 1,280,000 [20.2 m. = in.]. Size, 10.7 × 14.1 cm. Pp. iv. 1882. P. 418.

604. Routes through the Yao country, by the Rev. W. P. Johnson, 1880-82. Scale, 1: 2,000,000 [31.57 m. = in.]. Size, 21.3 × 21.8 cm. Pp. iv. 1882. P. 520.

605. Map of the Mozambique coast; to illustrate the paper by H. E. O'Neill, H. M. Consul at Mozambique, on the coast, rivers, and ports of Mozambique. Scale, 23 m. = in. Size, 32.1 × 40.5 cm. Pp. iv. 1882. P. 648.

606. Routes between the Umfulu and the Zambesi, by F. C. Selous. Scale, 1: 2,000,000 [31.57 m. = in.]. Size, 10.8 × 15.5 cm. Pp. v. 1883. P. 269.

607. Map of the southern part of Portuguese possessions on the west coast of Africa, to illustrate the Earl of Mayo's journey in 1832-1883. Scale, 28 m. = in. Size, 30.3 × 21.8 cm. Pp. v. 1883. P. 504.

608. Africa. Lake Nyassa, surveyed by Mr. James Stewart, C. E. Scale, 19 m. = in. Size, 20.7 × 49.7 cm. Pp. v. 1883. P. 752.

609. Physical map of west coast of Africa, by H. H. Johnston. Scale [ca. 229 m. = in.]. Size, 11 × 21.3 cm. Pp. v. 1883. P. 752.

B. Cape Region.

610. Outline map of southern Africa, to illustrate the analysis of Captain Owen's voyage. Scale [ca. 380 m. = in.]. Size, 22.2 × 19.7 cm. J. iii. 1883. Art. i. (Anal.).

611. Sketch of South Africa, to illustrate paper by W. D. Cooley, Esq. Scale [ca. 224 m. = in.]. Size, 21.8 × 16.8 cm. J. iii. 1833. Art. x. (Misc.).

612. Sketch of the Cape of Good-Hope colony. Scale [ca. 227 m. = in.]. Size, 21.7 × 16.9 cm. J. v. 1835. P. 340.

613. Colony of the Cape of Good Hope. Scale, 65 m. = in. Size, 29.8 × 19.9 cm. J. vi. 1836. P. 174.

614. Map to illustrate Captain Alexander's route in South Africa. 1838. Scale, 37 m. = in. Size, 23.5 × 38.5 cm. [Map of the western portion of Cape Colony, to illustrate Captain Alexander's route.] Scale, 55 m. = in. Size, 6.6 × 14.4 cm. J. viii. 1838. P. 28.

615. Africa, between 10° and 30° south latitude. Map to illustrate the routes of Francis Galton, Esq., Messrs. Livingston and Oswald, and W. Henry Gassiot, Esq. 1852. Scale, 188 m. = in. Size, 26 × 18.7 cm. J. xxii. 1852. Arts. xi, xii.

616. Map to illustrate explorations in South Africa from Walvish bay to Lake Ngami, etc., by C. I. [J.] Andersson, Esq. 1854. Scale, 84 m. = in. Size, 25.3 × 20.1 cm. J. xxv. 1854. P. 79.

617. Map to illustrate a visit to Moselekatse, King of the Matebele, by the Rev. R. Moffat. 1856. Scale [ca. 57 m. = in.]. Size, 23.1 × 19.6 cm. J. xxvi. 1856. P. 84.

618. South Africa. Map to illustrate route from near Colesberg on the east to Steinkopf on the west;

also return route along the banks of the Orange river towards the Bechuana country. By Robert Moffat, Esq. 1858. Scale, 40 m. = in. Size, 43.1 × 19.5 cm. J. xxviii. 1858. P. 153.

619. Sketch to accompany a trading trip into the Orange River Free States, and the country of the Transvaal Republic, in 1851-52. By John Sanderson, Esq. Scale, 30 m. = in. Size, 11 × 19.5 cm. J. xxx. 1860. P. 234.

620. Map to accompany a journey from Inhambane to Zoutpansberg, in 1855-56; to which is added the parts of South Africa adjacent, by James McQueen, Esq., F. R. G. S. Scale [ca. 54 m. = in.]. Size, 22.4 × 19.4 cm. J. xxxii. 1862. P. 63.

621. South Africa. Map of Zulu, Amatonga, Natal, and Kafir Land, from the sketches of Messrs. Sanderson, Paxton, Rider, and Newling, to illustrate papers by John Sanderson, Esq. 1861. Scale, 62 m. = in. Size, 19.2 × 18.5 cm. J. xxxii. 1862. P. 335.

622. Map of South Africa, to illustrate the paper by James Fox Wilson, Esq., and Dr. Livingstone's theory of ancient lakes. Scale, 263 m. = in. Size, 22 × 19.8 cm. J. xxxv. 1865. P. 107.

623. South-west Africa. Map of the principal part of Damara Land; based on prismatic compass triangulation checked by observed latitudes. By C. J. Andersson, Esq., Cape Town, 1866. Scale [ca. 28 m. = in.]. Size, 31.1 × 36.5 cm. J. xxxvi. 1866. P. 247.

624. Map of the colony of Natal, to accompany the paper by Dr. R. J. Mann. Scale, 27 m. = in. Size, 19.8 × 25.1 cm. J. xxxvii. 1867. P. 48.

625. Sketch map illustrating the discovery of the mouth of the Bembe, Limpopo, or Ori river (South Africa). By St. Vincent W. Erskine. Scale, 74 m. = in. Size, 16.2 × 19.1 cm. J. xxxix. 1869. P. 233.

626. Map of route from the Tati settlement to Delagoa bay, to illustrate the paper by Captain F. Elton. Scale, 34 m. = in. Size, 34.3 × 29.6 cm. J. xlii. 1872. P. 1.

627. Sketch map of the country between Delagoa bay and the South African Republic [Transvaal]. Compiled by E. G. Ravenstein. Scale, 1: 2,000,000 [31.57 m. = in.]. Size, 21.3 × 31.5 cm. O. H. ii. No. 11. 1873. P. 347.

628. Route map of the Gasa country (southeastern Africa), illustrating the journey to Umzila, King of Gasa. Reduced from the original map constructed by Mr. St. Vincent Erskine. Scale, 36 m. = in. Size, 26.6 × 34.9 cm. J. xlv. 1875. P. 45.

629. Map of the Transvaal and the surrounding territories, by F. Jeppe, F. R. G. S. Scale, 1: 1,850,000 [29.20 m. = in.]. Size, 58.1 × 56.7 cm. a. Continuation of Mauch's route to the ruins of Zimbabwe. Discovered 5th September, 1871. Scale [29.20 m. = in.]. Size, 5.2 × 6 cm.

b. Plan of Lourenço Marques (Del. bay). Scale, 3,280 ft. = in. Size, 5.2 × 6.2 cm.

c. Plan of Pretoria. Scale, *wanting*. Size, 5 × 7 cm. J. xlvii. 1877. P. 217.

630. A map of the South African Republics. By E. G. Ravenstein. Scale, 1: 2,000,000 [31.57 m. = in.]. Size, 44.9 × 50.1 cm. G. M. iv. 1877. P. 27.

631. Route map of A. C. Baillie's journey from Barkly to Gubuluwayo. Scale [ca. 31 m. = in.]. Size, 42.1 × 18 cm. J. xlviii. 1878. P. 287.

632. Map of the Bamangwato country, to illustrate Captain Patterson's paper. Scale, 65 m. = in. Size, 29 × 22 cm. Pp. i. 1879. P. 288.

633. Map of South Africa, illustrating the journey of Major Serpa Pinto from Benguella to Natal,

1877-79, by W. J. Turner. Scale, 178 m. = in. Size, 29.3 × 21.8 cm. Pp. i. 1879. P. 544.

634. Map of the central portion of South Africa, illustrating Dr. Holub's journeys, 1873-79; constructed from his original drawings, collated with the routes of other travellers and the most recent material, by W. J. Turner. Scale, 80 m. = in. Size, 22.3 × 37.4 cm. Pp. ii. 1880. P. 400.

635. General map of South Africa, by W. J. Turner, showing the comparative distances from Cape Town with those of European cities from London. Scale, 212 m. = in. Size, 25.7 × 21.9 cm. Pp. iii. 1881. P. 64.

636. The delta and lower course of the Sabi river [Umzila]. From the survey of the late Captain T. L. Phipson-Wybrants. Scale, 9.5 m. = in. Size, 17.7 × 10.7 cm. Pp. v. 1883. P. 272.

10. Islands.

637. Socotra, from the late surveys. 1835. Scale, 7.4 m. = in. Size, 32.3 × 17.6 cm. J. v. 1835. P. 228.

638. Sketch of Madagascar, to illustrate Colonel Llyod's [Lloyd's] paper. Scale, 128 m. = in. Size, 11.4 × 20.2 cm. J. xx. 1851. Art. iv.

639. The central provinces of Madagascar, by Joseph Mullens, D.D. Scale, 12 m. = in. Size, 40.3 × 78.7 cm.

Madagascar [showing the position of the central provinces]. Scale [ca. 41 m. = in.]. Size, 8.5 × 13.3 cm. J. xlv. 1875. P. 129.

640. Map of Sokotra according to S. B. Haines and I. R. Wellsted. By E. G. Ravenstein. Scale, 1 : 300,000 [4.73 m. = in.]. Size, 48.3 × 21.6 cm.

[Map of that portion of the Gulf of Aden between Sokotra and the Somali coast.] Scale, 1 : 3,000,000 [4.73 m. = in.]. Size, 10.4 × 7.8 cm. G. M. iii. 1876. P. 120.

641. South east Madagascar and the Ibara country, by Joseph Mullens, D.D., from the surveys of Messrs. Sibree, Shaw, and Richardson. Scale, 12 m. = in. Size, 49.3 × 32.9 cm. J. xlvii. 1877. P. 47.

642. West central Madagascar, by Joseph Mullens, D.D. From Messrs. Granddier, Sewell, etc. Scale, ca. 12 m. = in. Size, 38.3 × 30.4 cm. J. xlviii. 1877. P. 63.

643. Part of Madagascar; from the latest surveys, by Joseph Mullens, D.D. Scale, ca. 12 m. = in. Size, 39 × 47.2 cm. J. xlviii. 1877. P. 67.

644. [Map of Madagascar for comparison with the language map of Farther India and the Indian Archipelago. E. L. Brandreth and Robert N. Cust. 1878. No. 2.] Scale [ca. 330 m. = in.]. Size, 6.4 × 7.9 cm. G. M. v. 1878. P. 25.

645. Physical map of Madagascar by the Rev. James Sibree, reduced from Dr. Mullens' map. Scale, 140 m. = in. Size, 12.3 × 22.1 cm. Pp. i. 1879. P. 688.

646. Map of south-eastern provinces of Madagascar, comprising part of the Tanala, Betsileo, and Bara country. From a sketch survey by the Rev. W. Deans Cowan. Scale, 7.7 m. = in. Size, 76.7 × 56 cm. Pp. iv. 1882. P. 584.

V. AUSTRALASIA.

i. Australia, General.

647. Map of the south east portion of Australia, shewing the progress of discovery in the interior of New South Wales to 1832. Scale, 70 m. = in. Size, 41.1 × 33.8 cm. J. ii. [1832.] Art. [viii].

648. Australia [showing the position of New South Wales and Victoria]. Scale [500 m. = in.]. Size, 12.7 × 10.2 cm. J. vii. 1837. P. 248.

649. Australia, according to the proposed divisions. Scale, 312 m. = in. Size, 21.3 × 18.3 cm.

Spain and Portugal . . . to serve as a measure of magnitude. Scale, 312 m. = in. Size, ca. 6 × 4.5 cm. J. viii. 1838. P. 168.

650. Map shewing the range of the southern dialects of Australia. Scale, 320 m. = in. Size, 20.9 × 19 cm. J. xv. 1845. Art. iv. (Misc.).

651. Sketch-map to illustrate Dr. Leichardt's route from Moreton bay to Port Essington. 1846. Scale, 320 m. = in. Size, 21 × 19 cm. J. xvi. 1846. Art. x.

652. Map of the country explored by the Central Australian Expedition under the command of Captain Charles Sturt during the years 1844, '45, and '46. Scale, 50 m. = in. Size, 20.6 × 40.8 cm. J. xvii. 1847. Art. ii.

653. Australia. Map to illustrate diaries of exploration of central Australia by John McDouall Stuart, Esq. 1860 and 1861. Scale, 80 m. = in. Size, 20.1 × 36.5 cm. J. xxxi. 1861. P. 83.

654. Australia. Map to accompany the diary of Messrs. Burke and Wills, across Australia to the Gulf of Carpentaria; also Mr. Howitt's journal to Cooper creek; constructed chiefly from the observations and field-book of W. I. [J.] Wills, Esq. 1861. Scale, 80 m. = in. Size, 13.6 × 36.4 cm. J. xxxii. 1862. P. 430.

655. Map to illustrate the winds of north-east Australia, to accompany the paper by Dr. A. Rattray, M.D., R. N. Scale [ca. 143 m. = in.]. Size, 25.3 × 19.5 cm. J. xxxviii. 1868. P. 370.

656. Map illustrating the climate and physical geography of north-east Australia, to accompany the paper by Dr. A. Rattray, M.D., R. N. Scale [ca. 835 m. = in.]. Size, 34.4 × 19.8 cm. J. xxxviii. 1868. P. 381.

657. Map of the overland telegraph line between Port Augusta and Port Darwin, constructed by the South Australian government. Drawn for "Ocean highways" by F. le B. Bedwell, R. N., F. R. G. S. Scale, 125 m. = in. Size, 18.9 × 30.1 cm. O. H. ii. No. 10. 1873. P. 310.

2. West Australia.

658. Sketch of the Swan river colony, including King George's sound. Scale [ca. 18.94 m. = in.]. Size, 33 × 37.6 cm.

King George's sound. Scale, 4.6 m. = in. Size, 13.3 × 11.3 cm.
Cockburn sound. Scale, 5.75 m. = in. Size, 12.8 × 12.6 cm.
Port Leschenault. Scale, 2.12 m. = in. Size, 6 × 6.1 cm.
J. [i.]. 1830-31. Art. i.

659. Western Australia, from the latest documents received in the Colonial Office, 1832. Scale [ca. 23 m. = in.]. Size, 33.1 × 40.9 cm. J. ii. [1832.] Art. ix. (Misc.).

660. Australia. Northwest coast. 1838. Scale [82.2 m. = in.]. Size, 11.7 × 18.8 cm. J. viii. 1838. P. 466.

661. Part of western Australia, to illustrate the journals of Messrs. Gregory and Lieutenant Helpman, R. N. Scale, 38 m. = in. Size, 20.1 × 17.7 cm. J. xviii. 1848. Arts. iv., v.

662. Western Australia. Map to illustrate the route of the expedition under Surveyor-General Roe, from Perth to Russell Range, 1848 and 1849. Scale, 48 m. = in. Size, 27.8 × 19.5 cm. J. xxii. 1852. Art. i.

663. Sketch showing the route of the settlers' expedition under Mr. A. C. Gregory from Perth towards Gascoyne river, 1848. Also Governor Fitz-Gerald's route from Champion bay to Murchison river, 1848 and 1849. Scale, 48 m. = in. Size, 9.3 × 20 cm. J. xxvii. 1852. Arts. ii., iii.

664. Map to illustrate the report of an expedition into the interior of western Australia in 1854. By Robert Austin, Assistant Surveyor. Scale, 74 m. = in. Size, 16 × 19.8 cm. J. xxvi. 1856. P. 235.

665. Map of north western Australia; to illustrate journal of exploring expedition commanded by F. T. Gregory, Esq. 1861. Scale, 41 m. = in. Size, 36.5 × 19.1 cm. J. xxxii. 1862. P. 372.

666. Map shewing the overland tracks from Perth to Eucla and Adelaide by John Forrest, government surveyor, 1870. Scale, 45 m. = in. Size, 82.6 × 17.2 cm. J. xlii. 1871. P. 361.

667. Map showing the explorations to the eastward and southward of Hampton plains (western Australia) by Alexander Forrest, Assistant Surveyor. 1871. Scale, 45 m. = in. Size, 33.3 × 20.2 cm. J. xlii. 1872. P. 388.

668. Map showing the route of the West Australian exploring expedition through the centre of Australia, from Champion bay on the west coast to the overland telegraph line between Adelaide and Port Darwin. Commanded by John Forrest, F. R. G. S. 1874. Scale, 37 m. = in. Size, 76.4 × 18.7 cm. J. xlv. 1875. P. 249.

669. Map of the explorations from Beltana station (South Australia) to the city of Perth (western Australia), by Ernest Giles. 1875. Scale, 55 m. = in. Size, 69.6 × 17.5 cm. J. xlvi. 1876. P. 329.

3. North Australia.

670. Melville and Bathurst islands with Cobourg peninsula. North Australia. Scale, 10 m. = in. Size, 44.3 × 17.8 cm. J. iv. 1834. Art. vi.

671. North Australia. Map to complete diaries of exploration across Australia (from south to north) by John McDouall Stuart, Esq. 1861 and 1862. Scale, 65 m. = in. Size, 11.5 × 19.7 cm. J. xxxiii. 1863. P. 276.

672. North Australian exploring expedition. Part of North Australia, to illustrate journal of the route of Augustus C. Gregory, Esq. 1858. Scale, 58 m. = in. Size, 61.7 × 20.1 cm. J. xxviii. 1858. P. 1.

673. Portion of the Flinders river [North Australia], to illustrate the observations of Commander Norman, R. N. Scale, 4.8 m. = in. Size, 11 × 17.4 cm. J. xxxiii. 1863. P. 5.

4. South Australia.

674. Country near the mouth of the River Murray, Australia. Scale [ca. 19 m. = in.]. Size, 19.9 × 12.1 cm. J. iii. 1833. Art. v. (Anal.).

675. Sketch of the country east of Flinders range, South Australia, to illustrate a paper by Captain Frome, R. E., Surveyor-General of the Colony. 1843. Scale [ca. 35 m. = in.]. Size, 11 × 19.7 cm. J. xiv. 1844. Art. xv.

676. Southeast extremity of South Australia, to illustrate Governor G. Grey's expedition. 1844. Scale [ca. 29 m. = in.]. Size, 29.4 × 19.5 cm.

a. Mt. Gambier, — plan. Scale, 2,625 yds. = in. Size, 7.2 × 9 cm.

b. Mt. Schanck, — plan. Scale, 2,625 yds. = in. Size, 4.6 × 6.6 cm.

J. xv. 1845. Art. iii.

677. Sketch to illustrate extracts of explorations made by Surveyor-General Freeling, Mr. S. Hack,

and others, in South Australia, 1857. Scale [ca. 48 m. = in.]. Size, 22.8 × 19.5 cm.

P. ii. 1857–58. [P. 186.]
678. Expeditions in search of Burke and Wills. Map of eastern Australia; on which are delineated the routes of Messrs. Burke and Wills, McKinlay, Landsborough, and Walker, etc., to accompany the Journal of the Royal Geographical Society for 1863. Scale, 80 m. = in. Size, 30.6 × 45.4 cm. J. xxxiii. 1863. P. 13.

679. Map shewing the overland tracks from Perth to Eucla and Adelaide by John Forrest, government surveyor, 1870. Scale, 45 m. = in. Size, 82.6 × 17.2 cm. J. xlii. 1871. P. 361.

680. Map showing the route of the West Australian exploring expedition through the centre of Australia, from Champion bay on the west coast to the overland telegraph line between Adelaide and Port Darwin. Commanded by John Forrest, F. R. G. S. 1874. Scale, 37 m. = in. Size, 76.4 × 18.7 cm. J. xlv. 1875. P. 249.

681. Map of the explorations from Beltana station (South Australia) to the city of Perth (western Australia), by Ernest Giles. 1875. Scale, 55 m. = in. Size, 69.6 × 17.5 cm. J. xlvi. 1876. P. 329.

5. Queensland.

682. Australia. Map to illustrate the journal of a route along the rivers Victoria and Warrego, by E. B. Kennedy, Esq. 1847. Scale [ca. 60 m. = in.]. Size, 22.4 × 18 cm. J. xxii. 1852. Art. xv. (Append.).

683. Expeditions in search of Burke and Wills. Map of eastern Australia; on which are delineated the routes of Messrs. Burke and Wills, McKinlay, Landsborough, and Walker, etc., to accompany the Journal of the Royal Geographical Society for 1863. Scale, 80 m. = in. Size, 30.6 × 45.4 cm. J. xxxiii. 1863. P. 13.

684. Map illustrating the overland expedition from Port Denison to Cape York (Australia) under the command of F. and A. Jardine, Esqrs., to accompany Mr. Richardson's paper. Scale, 40 m. = in. Size, 33.4 × 36.9 cm. J. xxxvi. 1866. P. 19.

6. New South Wales.

685. Map of the south east portion of Australia, shewing the progress of discovery in the interior of New South Wales, by Major Mitchell, Surveyor-General of the Colony. Scale, 70 m. = in. Size, 41.9 × 33.3 cm.

Australia [showing the position of New South Wales]. Scale [500 m. = in.]. Size, 12.7 × 10.2 cm.

J. vii. 1837. P. 284.

686. Sketch of New England, Beardy plains, the Clarence and Richmond rivers, New South Wales, to illustrate the route of Captain H. G. Hamilton, R. N. Scale, 27 m. = in. Size, 15.4 × 19.4 cm. J. xiii. 1843. Pt. 2. Art. iii.

687. Sketch [of the northeastern portion of New South Wales] to illustrate Mr. Russell's paper. 1845. Scale, 39 m. = in. Size, 15.6 × 19.1 cm. J. xv. 1845. Art. ix.

688. Expeditions in search of Burke and Wills. Map of eastern Australia; on which are delineated the routes of Messrs. Burke and Wills, McKinlay, Landsborough, and Walker, etc., to accompany the Journal of the Royal Geographical Society for 1863. Scale, 80 m. = in. Size, 30.6 × 45.4 cm. J. xxxiii. 1863. P. 13.

7. Victoria.

689. Map of the south east portion of Australia, shewing the progress of discovery in the interior of New South Wales, by Major Mitchell, Surveyor-General of the Colony. Scale, 70 m. = in. Size, 41.9 × 33.3 cm.

Australia [showing the position of New South Wales and Victoria]. Scale [500 m. = in.]. Size, 12.7 × 10.2 cm.
J. vii. 1837. P. 248.

8. New Guinea.

690. [Maps of New Guinea, showing recent discoveries.]

- a.* Running survey made in April, 1873, by Captain J. Moresby and Lieutenant T. L. Mourilyan, of H. M. S. Basilisk. Scale, 13.2 m. = in. Size, 15.5 × 14.3 cm.
b. Galevo strait. Surveyed by Captain G. de Lenna of G. E. Cerutti's expedition, February to March, 1870. (From a map by Guido Cora.) Scale, 13.9 m. = in. Size, 5.8 × 10.2 cm.
c. [Western end of New Guinea, shewing Dr. Meyer's route in 1873, from an original sketch.] Scale [ca. 114 m. = in.]. Size, 9.6 × 10.2 cm.

O. Hh. i. 1873. P. 360.

691. Chart of the south-east coast of New Guinea, to accompany the paper by Captain J. Moresby, R. N. Scale [ca. 9 m. = in.]. Size, 25.5 × 19.6 cm.

Sketch map of part of the south coast of New Guinea, by W. W. Gill, B.A. Scale [ca. 33 m. = in.]. Size, 5.5 × 3.9 cm.

J. xlv. 1874. P. 1.

692. Map of eastern New Guinea, to accompany the paper by Captain J. Moresby, R. N. Scale, 37 m. = in. Size, 39.8 × 40.7 cm.

New Guinea. Scale 195 m. = in. Size, 19.4 × 10.6 cm.
J. xlv. 1875. P. 153.

693. Map of [the northwestern] part of New Guinea, illustrating O. Beccari's explorations in 1875. Principally from maps compiled by Guido Cora. Scale, 1 : 3,000,000 [47.35 m. = in.]. Size, 27.9 × 16.4 cm.

[Enlarged map of the northern part of Galevo straits.] From a sketch by O. Beccari. Scale [ca. 14 m. = in.]. Size, 6 × 3.5 cm.

G. M. iii. 1876. P. 40.

694. New Guinea. Map of the Fly river. Drawn from the original charts made by Signor L. M. D'Albertis by W. J. Turner. Scale, 23 m. = in. Size, 31.6 × 31.6 cm.

[Map of New Guinea and neighbouring regions.] Scale, 190 m. = in. Size, 19.3 × 13.3 cm.

Pp. i. 1879. P. 80.

9. New Zealand.

695. New Zealand. Scale, 156 m. = in. Size, 11.5 × 20.3 cm. J. ii. [1832.] Art. viii. [ix.].

N. B. The article to which the map belongs is incorrectly numbered. It should be no. ix.

696. Warekauri or Chatham islands, to illustrate Dr. Dieffenbach's paper. Scale, 7.5 m. = in. Size, 21.2 × 19 cm. J. xi. 1841. P. 195.

697. The Middle island (New Zealand), to illustrate papers by Captain Stokes, R. N., and Captain Mitchell, 84th Regiment. 1851. Scale, 62 m. = in. Size, 18.3 × 20.5 cm. J. xxi. 1851. Art. iv.

698. The Middle island (New Zealand), to illustrate Mr. Brunner's paper. 1851. Scale, 63 m. = in. Size, 18.4 × 20.5 cm.

J. xxi. 1851. Art. xxii. (Append.)

699. New Zealand. South districts of the province of Otago; to illustrate the journal of J. Turnbull Thomson, Esq. 1857. Scale, 17.5 m. = in. Size, 15.8 × 19.3 cm. J. xxviii. 1858. P. 298.

700. New Zealand. Routes near west coast of Nelson district; by John Rochford, Esq., in 1859. Scale, 24.5 m. = in. Size, 11.7 × 18.9 cm. J. xxxii. 1862. P. 294.

701. Map of the provinces of Canterbury and Otago (New Zealand), to illustrate the papers of Mr. James M'Kerrow, Dr. J. Haast, and Dr. Hector. Scale, 28 m. = in. Size, 35.3 × 29.3 cm.

The islands of New Zealand. Scale [ca. 206 m. = in.]. Size, 9.3 × 12 cm.

J. xxxiv. 1864. P. 56.

702. Map of the province of Canterbury (New Zealand), showing the five routes between the east and west coasts, with sections of the routes, to accompany the paper by Dr. J. Haast. Scale, 24 m. = in. Size, 29.8 × 20.1 cm. J. xxxvii. 1867. P. 328.

703. Map of the southern Alps in the province of Canterbury (New Zealand). Reduced from the large map by Julius Haast, Ph. D., F. R. S. Scale, 16 m. = in. Size, 44.1 × 25.5 cm.

J. xl. 1870. P. 433.

VI. NORTH AMERICA.

1. Alaska.

704. Map of the arctic coast of America from Return reef to Point Barrow, explored by Messrs. P. W. Dease and T. Simpson under the direction of the Hon. Hudson's Bay Company. 1837. Scale [23.7 m. = in.]. Size, 19.8 × 11.5 cm. J. viii. 1838. P. 224.

705. Map of the Yukon, or Kwich-Pak, river. (To illustrate Mr. Whympers paper.) Scale [ca. 36 m. = in.]. Size, 45.7 × 28.9 cm.

[Sketch map of the northwestern portion of North America and the northeastern portion of Asia, showing the position of Alaska.] Scale [ca. 378 m. = in.]. Size, 26.1 × 17.4 cm.

J. xxxviii. 1868. P. 219.

706. Northern Alaska. From a survey by E. W. Nelson, U. S. Signal Service, shewing track of a sledge expedition made during 1878-79. Scale, 26.5 m. = in. Size, 27.5 × 29.7 cm. Pp. iv. 1882. P. 712.

2. British America.

A. Northern Region.

707. Sketch of North America shewing the proposed route of Captain Back. Scale [ca. 315 m. = in.]. Size, 30.6 × 24.3 cm. J. iii. 1833. Art. iii.

708. Sketch shewing the route of the recent arctic land expedition. 1835. Scale [ca. 210 m. = in.]. Size, 22.4 × 16.9 cm. J. v. 1835. P. 410.

709. Map of the discoveries and route of the arctic land expedition, in the years 1833 and 1834. Surveyed and drawn by Captain Back, R. N. Scale, 38.9 m. = in. Size, 48.7 × 27.1 cm.

[Sketch-map of the northern part of North America and adjoining region, to illustrate the route of the arctic land expedition of 1833-34.] Scale [ca. 210 m. = in.]. Size, 24.3 × 15.5 cm. J. vi. 1836. P. 11.

710. Hudson's strait, shewing the track of H. M. S. Terror, in 1836-37. Scale [ca. 49 m. = in.]. Size, 21.5 × 12.8 cm. J. vii. 1837. P. 466.

711. Map of the arctic coast of America from Return reef to Point Barrow, explored by Messrs. P. W. Dease and T. Simpson under the direction of the Hon. Hudson's Bay Company. 1837. Scale [23.7 m. = in.]. Size, 19.8 × 11.5 cm.

J. viii. 1838. P. 224.

712. Discoveries of Messrs. Dease and Simpson in 1838-39. Chart of the coast from Coronation gulf to Boat river, constructed from the narrative [of Messrs. Dease and Simpson]. Scale [31.1 m. = in.]. Size, 11.4 × 6.4 cm.

J. x. 1841. P. 274.

713. Frobisher strait, from the journals of his voyage. By Commander A. B. Becher, R. N. — Northumberland inlet. By Captain Warham, of the whaler Lord Gambier, in 1841. Scale [10.8 m. = in.]. Size, 22.4 × 19 cm.

J. xii. 1842. Pt. i. [Art. i., P. 1.]

714. Sketch map of Peel river by Mr. A. K. Isbester [Isbister]. 1845. Scale [ca. 30 m. = in.]. Size, 20.3 × 19.7 cm.

J. xv. 1845. Art. xi.

715. Chart of the Arctic coast [of North America], examined by Dr. J. Rae in spring and summer, 1851. Scale [ca. 34 m. = in.]. Size, 35.9 × 19.3 cm.

J. xxii. 1852. Arts. iv., v.

716. Sketch of the shores of arctic America, to illustrate the discovery of the north west passage, by Captain R. McClure, of H. M. S. Investigator, 1850-51. Equatorial scale [ca. 780 m = in.]. Size, 29.9 × 16.8 cm.

J. xxiv. 1854. P. 244.

717. Sketch of the shores of arctic America, to illustrate the search for Sir John Franklin by Captain Collinson of H. M. S. Enterprise, 1850-54. Scale [ca. 102 m. = in.]. Size, 29.2 × 17.3 cm.

J. xxv. 1855. P. 206.

718. Arctic America, showing the coasts explored in 1859, by Captain Sir F. L. McClintock and his officers, in search of the lost ships of Sir John Franklin in 1845. Compiled and drawn by John Arrow-smith. Scale, 96 m. = in. Size, 34.5 × 20.6 cm.

J. xxxi. 1861. P. 1.

719. [Sketch map of the northwestern portion of North America and the northeastern portion of Asia, showing the position of Alaska.] Scale [ca. 378 m. = in.]. Size, 26.1 × 17.4 cm.

J. xxxviii. 1868. P. 219.

B. Canada.

720. Map of British North America; to illustrate a paper on the means of communication with the Pacific ocean, by Captain M. H. Syngue, R. E. Scale, 240 m. = in. Size, 35 × 17.4 cm.

J. xxii. 1852. Art. xiii.

721. Sketch to illustrate report of a canoe expedition along the east coast of Vancouver island; by James Douglas, Esq., Governor. 1854. Scale, 15 m. = in. Size, 18.4 × 11.3 cm.

J. xxiv. 1854. P. 248.

722. Map of Vancouver island, with the adjacent coast; to illustrate a description of the island by Lieutenant-Colonel W. C. Grant. 1856. Scale, 48 m. = in. Size, 19.5 × 19 cm.

J. xxvii. 1857. P. 268.

723. British North America. Map of the country between Lake Superior and Vancouver island; to illustrate the papers of the exploring expedition under the command of Captain John Palliser, 1857 to 1860. Scale [ca. 74 m. = in.]. Size, 62 × 18.7 cm.

J. xxx. 1860. P. 268.

724. Part of British Columbia, to illustrate the papers of Mr. Justice Begbie, Commander Mayne, R. N., Lieutenant Palmer, R. E., and Mr. Downie. 1861. Scale, 62 m. = in. Size, 30.6 × 20.5 cm.

J. xxxi. 1861. P. 213.

725. Vancouver island. Sketch of the country between Albernie canal and Nanaimo; showing the line of road proposed by Commander Mayne, R. N. 1861. Scale, 5.76 m. = in. Size, 19.3 × 10.8 cm.

J. xxxii. 1862. P. 529.

726. Map of Vancouver island, to illustrate the paper of Dr. C. Forbes, R. N. Scale, 24 m. = in. Size, 37.1 × 26.1 cm.

J. xxxiv. 1864. P. 154.

727. Outline map of [the southern] part of British Columbia by Lieutenant H. S. Palmer, R. E. From the general map prepared by the royal engineers under Colonel Moody, R. E., at the Office of Lands and Works, New Westminster, February, 1863. Scale, 50 m. = in. Size, 24.1 × 19.4 cm.

J. xxxiv. 1864. P. 171.

728. [British Columbia.] Reconnaissance sketch of part of Cariboo, by Lieutenant H. S. Palmer, R. E. Scale, 7.4 m. = in. Size, 24.4 × 19.2 cm.

J. xxxiv. 1864. P. 171.

729. Sketch map showing proposed communication between Canada and British Columbia, to accompany the paper by Mr. A. Waddington. Scale, 290 m. = in. Size, 26.5 × 10.6 cm.

J. xxxviii. 1868. P. 118.

730. Map of British Columbia. Reduced from the original map by Mr. Alfred Waddington. Scale, 88 m. = in. Size, 26.6 × 19.6 cm.

J. xxxviii. 1868. P. 118.

731. Map of Vancouver island and part of British Columbia, to accompany the paper by R. Brown, Esq. Scale, 26 m. = in. Size, 26.3 × 19.1 cm.

J. xxxix. 1869. P. 121.

732. Sketch map of the Archipelago of San Juan [showing the channels between Vancouver island and the mainland]. Scale, 16 m. = in. Size, 9.3 × 11.8 cm.

O. H. ii. No. 8. 1872. P. 237.

733. Dominion boundary from the [Lake] of the Woods to long. 107° west, to illustrate reports by Captain Anderson, R. E. Scale, 1 : 750,000 [11.84 m. = in.]. Size, 40.7 × 23.6 cm.

G. M. i. 1874. P. 284.

734. Map of the North West Territory, illustrating the British and United States boundary line, surveyed and marked out by the joint commission 1872-74. To accompany the paper by Captain Anderson, R. E. Scale, 72 m. = in. Size, 46 × 18.9 cm.

J. xlvi. 1876. P. 229.

735. Map of Hudson bay and part of the Dominion of Canada, to accompany the paper by Robert Bell, M.D., F. G. S., Assistant Director of the Geological Survey of Canada. Compiled from the latest surveys. Scale, 19 m. = in. Size, 44.2 × 43.3 cm.

Diagram showing the route between Fort York, Hudson bay, and Liverpool. Scale [ca. 68 m. = in.]. Size, 30.2 × 9.3 cm.

Pp. iii. 1881. P. 640.

736. British North America. North-West Territory, District of Athabasca, from surveys and information collected by the Rev. Emile F. S. Petitot. Scale, ca. 28 m. = in. Size, 53.2 × 38.1 cm.

Pp. v. 1883. P. 688.

C. Labrador and Newfoundland.

737. Map of the River Moisie and adjoining country [Labrador], illustrating the paper by Professor H. Y. Hind. Scale, 17 m. = in. Size, 7.8 × 19 cm.

J. xxxiv. 1864. P. 82.

738. Map of Labrador, showing the canoe route from Seven islands to Hamilton inlet. Scale, 200 m. = in. Size, 17 × 19 cm.

J. xxxiv. 1864. P. 82.

739. Map of Newfoundland, to accompany the paper by the Rev. J. Moreton. Scale, 41 m. = in. Size, 23.3 × 24.6 cm.

J. xxxiv. 1864. P. 263.

740. Chart of the north-east coast of Labrador, to accompany the paper by Commander W. Chimmo. Scale [ca. 21 m. = in.]. Size, 31 × 36.4 cm.
J. xxxviii. 1868. P. 258.

741. Map of Newfoundland, to accompany the paper by Alexander Murray, Esq. Scale, 39 m. = in. Size, 26.8 × 26.9 cm. J. xlvii. 1877. P. 267.

742. Map of part of the island of Newfoundland [from Green bay to Bonne bay], to illustrate the paper by Staff-Commander G. Robinson, R. N. Scale, 4 m. = in. Size, 55.7 × 19 cm.
J. xlvii. 1877. P. 279.

3. United States.

743. Sources of the Mississippi. 1834. Scale [ca. 7 m. = in.]. Size, 20.3 × 19.1 cm.
J. iv. 1834. Art. iv. (Anal.).

744. Upper California, to illustrate the paper by Dr. Coulter. Scale [ca. 7 m. = in.]. Size, 11.1 × 25.4 cm. J. v. 1835. P. 70.

745. Map of the south-western portion of the United States, and of Sonora and Chihuahua, to illustrate the paper by Dr. W. A. Bell. Compiled by E. G. Ravenstein, F. R. G. S. & C. Scale, 95 m. = in. Size, 36.8 × 32.3 cm.
J. xxxix. 1869. P. 95.

746. Sketch map of the Archipelago of San Juan [showing the channels between Vancouver island and the mainland]. Scale, 16 m. = in. Size, 9.3 × 11.8 cm. O. H. ii. No. 8. 1872. P. 237.

747. Map of the Pacific railways of the south. Scale, 188 m. = in. Size, 25.4 × 14.2 cm.
O. H. i. 1873. P. 276.

748. Map of the North West Territory, illustrating the British and United States boundary line, surveyed and marked out by the joint commission, 1872-74. To accompany the paper by Captain Anderson, R. E. Scale, 72 m. = in. Size, 46 × 18.9 cm.
J. xlvi. 1876. P. 229.

4. Mexico.

749. Part of the River Tabasco and its tributaries, to illustrate the paper of Mr. P. Masters. Scale, 12.4 m. = in. Size, 26 × 19.5 cm.
J. xv. 1845. Art. v.

750. Map to illustrate a journey to the north-western provinces of Mexico; by Ch. Sevin, Esq. 1856. Scale, 57 m. = in. Size, 22.4 × 19.8 cm.
J. xxx. 1860. P. 1.

751. Map of the southwestern portion of the United States, and of Sonora and Chihuahua, to illustrate the paper by Dr. W. A. Bell. Compiled by E. G. Ravenstein, F. R. G. S. & C. Scale, 95 m. = in. Size, 36.8 × 32.3 cm. J. xxxix. 1869. P. 95.

752. Map of a portion of the railway from Vera Cruz to Mexico. Scale, 1 : 75,000 [1.18 m. = in.]. Size, 24.2 × 15.8 cm.

The railway from Vera Cruz to Mexico. Scale, 72 m. = in. Size, 12.2 × 5 cm.

O. H. i. 1873. P. 45.

5. Central America.

753. Sketch of the course of the Usumasinta, Central America, to illustrate Colonel Galindo's paper. Scale [ca. 87 m. = in.]. Size, 11.6 × 19.3 cm. J. iii. 1833. Art. ii.

754. Sketch of the State of Costarrica in Central America, by Colonel Don Juan Galindo. 1836. Scale, 37 m. = in. Size, 25.5 × 19.4 cm.
J. vi. 1836. P. 136.

755. Map of Central America, to illustrate the papers of Captain Bird Allen, R. N., Alonso de Es-

cober, and Chevalier Emanuel Friedrichsthal. Scale, 65 m. = in. Size, 37.2 × 41.6 cm.
J. xi. 1841. P. 76.

756. Survey for a canal by the Sopoia to Port Salinas, in Costa Rica, to illustrate Mr. Oersted's paper. 1851. Scale [ca. 6 m. = in.]. Size, 18.8 × 11.2 cm. J. xxi. 1851. Art. ix.

757. Map of the isthmus of Central America, to illustrate the paper by Captain Robert Fitz Roy, R. N. 1851. Scale, 110 m. = in. Size, 29.2 × 20 cm. J. xx. 1851. Art. xiii.

758. (Isthmus of Honduras.) Sketch showing the position of Lake Yojoa, or Taulebe; also the proposed railway between the Bay of Honduras and the Bay of Fonseca, to illustrate a paper by E. G. Squier, Esq. 1859. Scale [ca. 31.4 m. = in.]. Size, 11.2 × 19.5 cm. J. xxx. 1860. P. 58.

759. Map of the Mosquito territory, from surveys and sketches made during several years residence in the country, by Charles N. Bell, Esq. 1856. Scale, 23 m. = in. Size, 24.9 × 41.4 cm.
J. xxxii. 1862. P. 242.

760. Map of Guatemala, to illustrate Mr. A. P. Maudslay's paper. Scale, 23 m. = in. Size, 34.9 × 33.2 cm. Pp. v. 1883. P. 248.

761. [Plan of ruins, etc., to illustrate Mr. Maudslay's paper on Guatemala.]

a. Rough plan of the ruins near Quirigua. Scale, 500 ft. = in. Size, 5.7 × 12.3 cm.

b. Plan of the ruins of Tikal. Scale, 320 ft. = in. Size, 8.7 × 12.3 cm.

c. Plan of ruined town on Usumacinta river. Scale, 290 ft. = in. Size, 14.4 × 10 cm.

d. Plan of temple F, Tikal. Scale, 40 ft. = in. Size, 7.2 × 5.5 cm.

e. Plan of house A, Usumacinta. Scale, 40 ft. = in. Size, 7.2 × 5.5 cm.

f. Plan of house D, Usumacinta. Scale, 40 ft. = in. Size, 7.2 × 5.4 cm.

g. Plan of house E, Usumacinta. Scale, 40 ft. = in. Size, 7.2 × 5.4 cm.

Pp. v. 1883. P. 248.

6. West Indies.

762. Anegada, with its reefs, by R. H. Schomburgk. Scale [ca. 1.15 m. = in.]. Size, 23.7 × 18.6 cm.

Virgin islands. Scale [ca. 22 m. = in.]. Size, 8.5 × 5.5 cm.

J. ii. [1832.] Art. x. [xi.].
N. B. The article to which the map belongs is incorrectly numbered x; it should be xi.

763. The Virgin islands, shewing the set of the tide amongst them. Scale [ca. 3 m. = in.]. Size, 42.8 × 18.5 cm. J. v. 1835. P. 38.

764. Peninsula and bay of Samana in the Dominican republic, by Sir Robert H. Schomburgk. 1853. Scale [ca. 8 m. = in.]. Size, 23 × 17.9 cm.
J. xxiii. 1853. Art. xxi.

765. Chart to illustrate the landfall of Columbus, 12 October, 1492. By A. B. Becher, Captain R. N. 1856. Scale [ca. 34 m. = in.]. Size, 63 × 39 cm.

a. Watling island. By Mr. E. Barnett, R. N. 1816. The San Salvador of Columbus, 1492. The Landfall. Scale, 2.33 m. = in. Size, 17.9 × 21.6 cm.

b. The Crooked isles. Proposed Fragrant isles of Columbus, 1492. Scale [ca. 17 m. = in.]. Size, 14.4 × 13.5 cm.

J. xxvi. 1856. P. 189.

766. Bahama islands, modern, to accompany Mr. Major's paper. Scale [ca. 165 m. = in.]. Size, 18.1 × 11 cm. J. xli. 1871. P. 193.

767. Bahama islands, Antonio de Herrera. 1601 [to accompany Mr. R. H. Major's paper]. Scale [ca. 233 m. = in.]. Size, 14.7 × 9.9 cm.

J. xli. 1871. P. 193.

768. Watling island [Bahama islands], to accompany Mr. Major's paper. Scale [ca. 2.5 m. = in.]. Size, 10.8 × 18.7 cm. J. xii. 1871. P. 193.

VII. SOUTH AMERICA.

I. General.

769. The valley of the Amazons. Scale, 170 m. = in. Size, 30.6 × 19.4 cm.

O. H. ii. No. 5. 1872. P. 138.

770. Part of South America, showing the river system of the states adjoining Bolivia. Scale, 780 m. = in. Size, 12.8 × 9.7 cm.

Pp. iii. 1881. P. 448.

2. Colombia and Venezuela.

771. Part of the Isthmus of Darien. Scale [ca. 9.2 m. = in.]. Size, 33.8 × 39.4 cm.

J. xxiii. 1853. Art. xv.

772. The Rio Negro, from observations made in the years 1851 and 1852 by Alfred R. Wallace. Scale [ca. 98 m. = in.]. Size, 25.8 × 13.4 cm.

Enlarged map of the River Uaupes [branch of the Rio Negro]. Scale [ca. 38 m. = in.]. Size, 25.8 × 10.7 cm.

J. xxiii. 1853. Art. xviii.

773. Isthmus of Panama. Map showing the route of Commander Prevost, from Rancho no. 1, on the Savana river, to Rancho no. 12, beyond Prevost river; with sections of the isthmus. By Lionel Gisborne, Esq., C. E. 1854. Scale, 12.4 m. = in. Size, 26.1 × 20.2 cm.

J. xxiv. 1854. P. 256.

774. Isthmus of Darien. Map showing the route of Commander Prevost, from rancho no. 1, on the Savana river, to rancho no. 12, beyond Prevost river; to which are added the surveys and sections of the isthmus. By Lionel Gisborne, Esq., C. E. 1854. Scale [ca. 9.5 m. = in.]. Size, 25.8 × 20.1 cm.

J. xxvii. 1857. P. 191.

775. The Isthmus of Panama, to illustrate the paper by Laurence Oliphant, Esq. Scale, 21.5 m. = in. Size, 18.3 × 23.6 cm.

J. xxxv. 1865. P. 143.

776. Mouths of the Bayanos river [Isthmus of Panama], (to accompany Mr. Oliphant's paper). Scale [ca. 1.2 m. = in.]. Size, 12.6 × 18.3 cm.

J. xxxv. 1865. P. 143.

777. Map of a part of the Isthmus of Darien, to accompany the paper by M. Lucien de Puydt. Scale, 9.6 m. = in. Size, 29.6 × 18.9 cm.

J. xxxviii. 1868. P. 69.

778. The Isthmus of Panama, showing the lines of canal referred to by Lieutenant Lucien N. B. Wyse. Scale, 22 m. = in. Size, 41.3 × 26.6 cm.

G. M. v. 1878. P. 81.

779. South America. Map of the northern part of the State of Magdalena, U. S. of Colombia, by Mr. F. A. A. Simons, 1879. Scale, ca. 13 m. = in. Size, 31.3 × 21.4 cm.

Pp. i. 1879. P. 752.

780. South America. Map of Sierra Nevada de Santa Marta, State of Magdalena, United States of Colombia; from a survey by Mr. F. A. A. Simons. 1881. Scale, 12.5 m. = in. Size, 36 × 44.6 cm.

Part of South America showing the position of Sierra Nevada de Santa Marta. Scale [ca. 260 m. = in.]. Size, 18 × 7.8 cm.

Pp. iii. 1881. P. 768.

781. The central and western provinces of Colombia. With corrections from the surveys of Mr. R. Blake White, C. E., to illustrate Mr. White's

paper in the Proceedings R. G. S., May, 1883. Scale, 46 m. = in. Size, 27.3 × 42.4 cm.

Pp. v. 1883. P. 312.

3. Guiana.

782. A sketch map of British Guiana, South America, compiled from the surveys and reports of Hancock, Hillhouse, and Dutch and Spanish authorities, with the probable boundaries between the British, Columbians, Portuguese and Dutch, by Captain J. E. Alexander, H. P. Late 16th Lancers. Scale [ca. 114 m. = in.]. Size, 12 × 20.5 cm.

J. ii. [1132.] Art. iii. (Anal.).

783. The Massaroony river [British Guiana], South America. By W. Hilhouse, Esq. 1830. Scale, 34.5 m. = in. Size, 21.4 × 18.3 cm.

J. iv. 1834. Art. ii.

784. Part of British Guyana. Scale [ca. 28 m. = in.]. Size, 17.4 × 11.1 cm.

J. iv. 1834. Art. i. (Misc.).

785. British Guayana, by Robert H. Schomburgk, Esq. 1836. Scale, 39 m. = in. Size, 19.4 × 35.8 cm.

J. vi. 1836. P. 283.

786. British Guayana, by Robert H. Schomburgk, Esq. 1837. Scale, 40 m. = in. Size, 19.2 × 36 cm.

J. vii. 1837. P. 350.

787. Map of Guayana, to illustrate the route of R. H. Schomburgk, Esq. 1840. Scale, 57 m. = in. Size, 38.8 × 27.2 cm.

J. x. 1841. P. 159.

788. Part of Guiana, to illustrate the excursions of the Chevalier Robert H. Schomburgk in 1841. Scale [ca. 21 m. = in.]. Size, 21.7 × 19.8 cm.

J. xii. 1842. Pt. ii. Art. iii.

789. Sketch map of the River Takutu. By Robert H. Schomburgk, K. R. E. May, 1842. Scale, 21 m. = in. Size, 11.4 × 19.4 cm.

J. xiii. 1843. Pt. i. Art. ii.

790. Map of a portion of British Guayana, to illustrate the route of Sir R. H. Schomburgk from Pirara to the Upper Corentyne. 1843. Scale, 35.5 m. = in. Size, 19.5 × 20.2 cm.

J. xv. 1845. Art. i.

791. Sketch map of a portion of the Essequibo and Potaro rivers, showing the position of Kaieteur fall [British Guiana], to accompany the paper by C. B. Brown, Esq. Scale, 14 m. = in. Size, 10.6 × 28.6 cm.

J. xli. 1871. P. 77.

792. Reduction of the map of British Guiana compiled from the surveys executed under Her Majesty's commission from 1841 to 1844, and under the direction of the Royal Geographical Society from 1835 to 1839, by Sir Robert H. Schomburgk, K. R. E., Ph.D. Revised and corrected to the present time by Cathcart Chalmers, Esq., Crown surveyor of the colony, and James Gay Sawkins, Esq., director of the geological survey of the West Indies and British Guiana. With additions by Charles B. Brown, Esq. 1875. Scale, 36 m. = in. Size, 28.3 × 41.2 cm.

Pp. ii. 1880. P. 528.

4. Ecuador.

793. Sketch map to illustrate explorations in Ecuador, in the years 1856 and 1857, by George James Pritchett, Esq. Scale, 65 m. = in. Size, 16.2 × 19.2 cm.

J. xxx. 1860. P. 64.

794. Map of the mountains of Llanganati, in the Quitoian Andes, by Don Atanasio Guzman. To illustrate a paper by Richard Spruce, Esq. Copiada del original por Ricardo Spruce, Ambato, Marzo 1^o, 1860. Scale, $\frac{3}{4}$ of the original, [ca. 4 m. = in.]. Size, 46.3 × 28.7.

J. xxxi. 1861. P. 163.

795. Diagram to illustrate the northern part of Mr. Whymper's travels among the Great Andes of the Equator. Scale, 12 m. = in. Size, 13 × 20.6 cm. Pp. iii. 1881. P. 512.

5. Peru.

796. Plan of the rivers Ucayali and Amazon from the Mission of Sarayacu, to the Rio Negro, from the observations of Lieut. Wm. Smyth and Mr. Fred'k Lowe, R. N. 1835. Scale, 36 m. = in. Size, 82.1 × 19.7 cm.

[Plan of the River Amazon] continued from the map of Spix and Martius to Para. Scale [ca. 102.4 m. = in.]. Size, 21.6 × 7.8 cm.

J. vi. 1836. P. 22.

797. Sketch of a route to the northward and eastward of Cuzco [Peru] by General Miller, July, 1835. Scale, 44 m. = in. Size, 12.8 × 19 cm.

J. vi. 1836. P. 186.

798. Survey of the Province of Tarapaca in the Department Arequipa, Peru, commenced in 1827 by Wm. Bollaert and Geo. Smith, with additions to 1851 by W. B. Drawn by A. Petermann. Scale, ca. 1: 1,200,000 [18.93 m. = in.]. Size, 20.3 × 30.3 cm.

799. Sketch of a route from Cuzco to the supposed sources of the River Purus, to illustrate a paper by C. R. Markham, Esq. Scale, 30 m. = in. Size, 18.3 × 11.9 cm.

J. xxv. 1855. p. 158.

800. Sketch map of the province of Carabaya, etc., in southern Peru, shewing the sources of the River Purus. By Clements R. Markham, Esq. Scale, 26 m. = in. Size, 24.6 × 17.7 cm.

J. xxxi. 1861. P. 190.

801. Map of the River Purús, from near its source to its mouth. By W. Chandless, Esq. Scale, 13.5 m. = in. Size, 17.0 × 20 cm.

J. xxxvi. 1866. P. 87.

802. Map showing the course of the rivers S[an] Gavan and Esquilaya in the province of Carabaya, Peru, to accompany the paper by Sr. Raimondi. Scale, 9.33 m. = in. Size, 14.1 × 20.1 cm.

J. xxxvii. 1867. P. 116.

803. Map showing the junction of the rivers Mantaro and Apurimac (Peru), to accompany the paper by Professor A. Raimondi. Scale, ca. 11 m. = in. Size, 18.6 × 19.7 cm.

J. xxxviii. 1868. P. 413.

804. A plan of Cuzco [Peru], ancient and modern. Scale, 766 ft. = in. Size, 23.3 × 17.2 cm.

J. xli. 1871. P. 281.

805. Ttahuantín-Suyu, or the empire of the Yncas (except Quito and Chile) in its four great divisions of Chíncha-Suyu, Cunti-Suyu, Anti-Suyu, Colla-Suyu, with their tribes and ayllus, or lineages, also the routes of the Ynca conquerors. By Clements R. Markham, C. B. Scale, 47 m. = in. Size, 67.2 × 63.1 cm.

An enlarged map of the cradle of the Ynca race. Scale [ca. 12 m. = in.]. Size, 17 × 9.2 cm.

J. xlii. 1872. P. 513.

806. Map of the Amazonas (in Peru). From the hydrographical and astronomical surveys of Peruvian officers and of A. Werthemann, C. E., 1864-70. By Lieut. Juan Salaverry, Peruvian Navy. Scale, 58 m. = in. Size, 26.1 × 15.6 cm.

O. Hh. i. 1873. P. 265.

807. [Plan showing the "development" of Oroya railway route near San Bartolomé station, Peru.] Scale [ca. 2200 ft. = in.]. Size, ca. 9.5 × 4 cm.

P. xviii. 1873-4. P. 207.

808. [Plan showing the "development" of the Oroya railway route between Matucana and San

Mateo, Peru.] Scale [ca. 3000 ft. = in.]. Size, ca. 8 × 6.5 cm.

P. xviii. 1873-4. P. 209.

809. [Plan showing the "development" of the Oroya railway route near the junction of the Blanco river with the Rimac river, Peru.] Scale [ca. 2500 ft. = in.]. Size, ca. 10 × 5.5 cm.

P. xviii. 1873-4. P. 210.

810. Map of southern Peru, to accompany Mr. Markham's paper. Scale, 59 m. = in. Size, 24.9 × 18.1 cm.

J. xliv. 1874. P. 127.

811. [Sketch map showing the railways, open and projected, of Peru.] Scale, 43 m. = in. Size, 7.7 × 8.8 cm.

G. M. i. 1874. P. 90.

812. Part of Peru and Bolivia, to illustrate the paper by Clements R. Markham, C. B., [on the Beni river]. Scale, 116 m. = in. Size, 12.1 × 12.9 cm.

Pp. v. 1883. P. 376.

6. Bolivia.

813. The Bolivian Andes, to illustrate the papers by J. B. Pentland, Esq., and W. Parish, Esq. Scale [ca. 60 m. = in.]. Size, 21.9 × 19 cm.

J. v. 1835. P. 88.

814. Bolivia. Sketch of the country between Cochabamba and Trinidad, to illustrate Col. Lloyd's route from the former city to Chimore. 1854. Scale, 35 m. = in. Size, 10.6 × 18.8 cm.

J. xxiv. 1854. P. 259.

815. Map of the River Aquiry (an affluent of the Purús). [By W. Chandless.] Scale, 14 m. = in. Size, 53.8 × 20.2 cm.

J. xxxvii. 1866. P. 119.

816. Map of part of Bolivia, [eastern], from the surveys of J. B. Minchin, to illustrate the paper by G. C. Musters, Retired Commander R. N. Scale, 13.5 m. = in. Size, 20 × 31.4 cm.

J. xlvii. 1877. P. 201.

817. Map of part of Bolivia, [south central], from the surveys of J. B. Minchin, to illustrate the paper by G. C. Musters, Retired Commander R. N. Scale, 13.5 m. = in. Size, 57.5 × 31.6 cm.

J. xlvii. 1877. P. 201.

818. Map of part of the desert of Atacama (Bolivia), to accompany the paper by Mr. Josiah Harding. Scale, 24 m. = in. Size, 25.3 × 19.5 cm.

J. xlvii. 1877. P. 251.

819. Map of the Madeira and Purus, from an official Brazilian ms. map, communicated by G. E. Church, Esq. Scale, 1: 3,000,000 [47.35 m. = in.]. Size, 50.8 × 57.6 cm.

G. M. iv. 1877. P. 95.

820. South America. Map of the district of Atacama showing the territory in dispute between Chili and Bolivia. Scale, 24 m. = in. Size, 22 × 22.4 cm.

Pp. i. 1879. P. 816.

821. South America. Map of [the eastern] part of Bolivia. Compiled from the survey of J. B. Minchin, Esq., engineer to the Bolivian government. Scale, 1: 3,600,000 [56.82 m. = in.]. Size, 43.2 × 38.7 cm.

Part of South America, showing the river system of the states adjoining Bolivia. Scale, 780 m. = in. Size, 12.8 × 9.7 cm.

Pp. iii. 1881. P. 448.

822. Part of the Bolivian table land. From a trigonometrical survey executed for the National Government in 1882, by J. B. Minchin. Scale, 17 m. = in. Size, 23.4 × 28.5 cm.

Pp. iv. 1882. P. 712.

823. The Beni river. From a reduction of the original surveys of Dr. E. Heath, supplied by himself. Scale, 46 m. = in. Size, 23 × 31.7 cm.

Part of Peru and Bolivia, to illustrate the paper by Clements R. Markham, C. B. Scale, 116 m. = in. Size, 12.1 × 12.9 cm.

Pp. v. 1883. P. 376.

7. Brazil.

824. Plan of the rivers Ucayali and Amazon from the Mission of Sarayacu to the Rio Negro, from the observations of Lieut. Wm. Smyth and Mr. Fred'k Lowe, R. N. 1835. Scale, 36 m. = in. Size, 82.1 × 19.7 cm.

[Plan of the river Amazon] continued from the map of Spix and Martius to Para. Scale [ca. 102 m. = in.]. Size, 21.6 × 7.8 cm.

J. vi. 1836. P. 22.

825. Sketch of the Rio Negro, from the journal of Don Balilio Villarino. Scale, 52.22 m. = in. Size, 31.5 × 12.7 cm. J. vi. 1836. P. 168.

826. Map of Guayana, to illustrate the route of R. H. Schomburgk, Esq. 1840. Scale, 57 m. = in. Size, 38.8 × 27.2 cm. J. x. 1841. P. 159.

827. Sketch map of the river Takutu. By Rob't H. Schomburgk, K. R. S., May, 1842. Scale, 21 m. = in. Size, 11.4 × 19.4 cm.

J. xiii. 1843. Pt. I. Art. ii.

828. The Rio Negro, from observations made in the years 1851 and 1852 by Alfred R. Wallace. Scale [ca. 98 m. = in.]. Size, 25.8 × 13.4 cm.

Enlarged map of the River Uaupes (branch of the Rio Negro). Scale [ca. 38 m. = in.]. Size, 25.8 × 10.7 cm.

J. xiii. 1853. Art. xviii.

829. Brazil. Map of the rivers Arinos, Jurueña, and Tapajos, to accompany the notes of W. Chandless, Esq. 1862. Scale, 122 m. = in. Size, 11.6 × 19.8 cm. J. xxxii. 1862. P. 268.

830. Map of the River Purús, from near its source to its mouth. By W. Chandless, Esq. Scale, 13.5 m. = in. Size, 170.9 × 20 cm.

J. xxxvi. 1866. P. 87.

831. Map of the River Aquiri (an affluent of the Purús). [By W. Chandless.] Scale, 14 m. = in. Size, 53.8 × 20.2 cm. J. xxxvi. 1866. P. 119.

832. Map of the River Juruá, for an estimated distance of 980 geographical miles from its mouth, by W. Chandless, Esq. Scale, 14 m. = in. Size, 66.4 × 19.1 cm., and 48.2 × 19 cm.

J. xxxix. 1869. P. 296.

833. Map of the rivers Canumá, Abacaxis, and Maué-Assú and its tributaries (Brazil). Reduced from the original map by W. Chandless, Esq. Scale, 17.5 m. = in. Size, 27.3 × 31.9 cm.

Sketch map showing the connection of the rivers Canumá, etc., with the river Amazon. Scale [ca. 100 m. = in.]. Size, 10.1 × 7.5 cm.

J. xl. 1870. P. 419.

834. The valley of the Amazons. Scale, 170 m. = in. Size, 30.6 × 19.4 cm.

O. H. ii. no. 5. 1872. P. 138.

835. The valleys of the Tibagy and Ivahy, Province of the Paraná, South Brazil, by T. P. Bigg-Wither. Scale, 1 : 1,250,000 (19.73 m. = in). Size, 47.7 × 31.5 cm. J. xlvi. 1876. P. 263.

836. Route map of journey through northeast Brazil, by James W. Wells, civil engineer. Scale [ca. 50 m. = in.]. Size, 23.5 × 35.3 cm.

J. xlvi. 1876. P. 309.

837. Map of the Madeira and Purus, from an official Brazilian ms. map, communicated by G. E. Church, Esq. Scale, 1 : 3,000,000 [47.35 m. = in.]. Size, 50.8 × 57.6 cm.

G. M. iv. 1877. P. 95.

8. Paraguay and Uruguay.

838. A sketch map of Paraguay; compiled from the works of Azara, Page, Dugraty, Mouchez and Wisner, and from personal observations by Keith Johnston, in 1874-5. Scale, 19 m. = in. Size, 42.9 × 55.9 cm. G. M. ii. 1875. P. 264.

839. Estancia de San Jorge, Uruguay. From a survey by Don Juan Frugoni, Durazno, 1867. Scale, 3.25 m. = in. Size, 24.7 × 21.6 cm.

Uruguay. Scale, 88 m. = in. Size, 10.6 × 11.4 cm.

Pp. ii. 1880. P. 720.

9. Chili.

840. Map of proposed line of railway across the Andes from Caldera de Fiambala; to accompany report of Mr. E. A. Flint's survey. Communicated by W. Wheelwright, Esq. Scale, 48 m. = in. Size, 20.1 × 11.3 cm. J. xxxi. 1861. P. 155.

841. Map of part of Patagonia, by Henry L. Jones, Esq., to accompany his notes. Scale, 70 m. = in. Size, 24.4 × 17.5 cm. J. xxxi. 1861. P. 204.

842. The Andes. Map to illustrate extracts from the narrative of a route across the southern Andes; by Don Guillermo Cox; 1862-3. Scale [ca. 21.6 m. = in.]. Size, 29.2 × 20 cm.

J. xxxiv. 1864. P. 205.

843. Map showing the projected railway route from Buenos Ayres to Chili, to accompany the paper by R. Crawford, Esq. Scale, 43 m. = in. Size, 57.4 × 19 cm. J. xliii. 1873. P. 47.

844. [Sketch map of Chili between the River Imperial and the southern portion of Chiloe island, to illustrate the survey by Don Francisco Vidal Gormaz in 1872.] Scale, 210 m. = in. Size, 7.9 × 8.5 cm. O. H. i. 1873. P. 74.

845. South America. Map of the district of Atacama showing the territory in dispute between Chili and Bolivia. Scale, 24 m. = in. Size, 22 × 22.4 cm. Pp. i. 1879. P. 816.

10. Argentine Republic.

846. Map of the Province of La Rioja, shewing the routes of Mess'rs French, Gosselman, and Hibbert. Scale, 57 m. = in. Size, 18 × 18 cm.

J. ix. 1839. P. 408.

847. Map of proposed line of railway across the Andes from Caldera de Fiambala; to accompany report of Mr. E. A. Flint's survey. Communicated by W. Wheelwright, Esq. Scale, 48 m. = in. Size, 20.1 × 11.3 cm. J. xxxi. 1861. P. 155.

848. The Andes. Map to illustrate extracts from the narrative of a route across the southern Andes; by Don Guillermo Cox; 1862-3. Scale [ca. 21.6 m. = in.]. Size, 29.2 × 20 cm.

J. xxxiv. 1864. P. 205.

849. Map of part of the Argentine Republic, to illustrate the paper by Mr. Consul Hutchinson. Scale, 63 m. = in. Size, 15.8 × 19.3 cm.

J. xxxiv. 1864. P. 226.

850. Map showing the projected railway route from Buenos Ayres to Chile, to accompany the paper by R. Crawford, Esq. Scale, 43 m. = in. Size, 57.4 × 19 cm. J. xliii. 1873. P. 47.

11. Patagonia.

851. Chart of a part of South America, surveyed by order of the Rt. Hon'ble the Lords Commissioners of the Admiralty, under the direction of Capt. P. P. King, R. N., during the years 1826-30. Scale [ca. 76 m. = in.]. Size, 19.7 × 27.1 cm.

J. [i.] 1830-31. No. 5. Art. xi.

852. River Santa Cruz [Patagonia]. Scale [23.7 m. = in.]. Size, 24.4 × 6.5 cm.

J. vii. 1837. P. 126.

853. Map of part of Patagonia, by Henry L. Jones, Esq., to accompany his notes. Scale, 70 m. = in. Size, 24.4 × 17.5 cm.

J. xxxi. 1861. P. 204.

854. Patagonia, to illustrate Capt'n Musters' route, 1869-70. Scale, 108 m. = in. Size, 19.2 × 30.5 cm. J. xii. 1871. P. 59.

855. [Map of east central Patagonia, to illustrate the paper on Mr. H. Durnford's explorations.] Scale [ca. 84 m. = in.]. Size, 10.7 × 9.6 cm. Pp. v. 1883. P. 85.

VIII. POLAR REGIONS.

i. North Polar Region.

A. American.

856. Sketch shewing the route of the recent arctic land expedition. 1835. Scale [ca. 210 m. = in.]. Size, 22.4 × 16.9 cm. J. v. 1835. P. 410.

857. Map of the discoveries and route of the arctic land expedition, in the years 1833 and 1834. Surveyed and drawn by Captain Back, R. N. Scale, 38.9 m. = in. Size, 48.7 × 27.1 cm.

[Sketch-map of the northern part of North America and adjoining region, to illustrate the route of the arctic land expedition of 1833-34.] Scale [ca. 210 m. = in.]. Size, 24.3 × 15.5 cm.

J. vi. 1836. P. 11.

858. Discoveries of Messrs. Dease and Simpson in 1838-9. Chart of the coast from Coronation gulf to Boat river constructed from the narrative [of Messrs. Dease and Simpson]. Scale [31.1 m. = in.]. Size, 11.4 × 6.4 cm. J. x. 1841. P. 274.

859. Frobisher strait, from the journals of his voyage. By Commander A. B. Becher, R. N.—Northumberland inlet. By Capt'n Warham, of the whaler Lord Gambier, in 1841. Scale [10.8 m. = in.]. Size, 22.4 × 19 cm.

J. xii. 1842. Pt. 1. Art. i.

860. Chart of the arctic coast [of North America] examined by Dr. J. Rae in spring and summer, 1851. Scale [ca. 34 m. = in.]. Size, 35.9 × 19.3 cm. J. xxii. 1852. Arts. iv., v.

861. Chart shewing the discoveries and explorations of the travelling parties from the Prince Albert, under the command of W. Kennedy, Esq., in search of Sir John Franklin, 1851-2. Scale [ca. 42 m. = in.]. Size, 19.8 × 19 cm.

J. xxiii. 1853. Art. vii.

862. Chart of the northern portion of Baffin bay, to illustrate Comm'r Inglefield's report. 1853. Scale [ca. 69 m. = in.]. Size, 25.8 × 18.5 cm.

J. xxiii. 1853. Art. ix.

863. Sketch of the west coast of Greenland, to illustrate a paper on icebergs in the arctic seas by Dr. H. Rink. 1853. Scale [ca. 48 m. = in.]. Size, 10.6 × 19.5 cm. J. xxiii. 1853. Art. x.

864. Sketch of the shores of arctic America, to illustrate the search for Sir John Franklin by Capt'n Collinson of H. M. S. Enterprise, 1850-1-2-3-4. Scale [ca. 102 m. = in.]. Size, 29.2 × 17.3 cm.

J. xxv. 1855. P. 206.

865. Map of the arctic exploration, from which resulted the first information of Sir John Franklin's missing party; by Dr. John Rae. 1854. Scale, 52 m. = in. Size, 19 × 12.4 cm.

J. xxv. 1855. P. 256.

866. Discoveries of the American arctic expedition (to the northward of Sir Thomas Smith sound) in search of Sir John Franklin 1853-4-5, under the command, and to illustrate the paper, of Dr. E. K. Kane, U. S. Navy. Scale, 50 m. = in. Size, 18.4 × 19.4 cm.

[Map of Baffin bay, Smith sound and Kennedy channel, to illustrate Dr. Kane's route, 1855.] Scale [ca. 115 m. = in.]. Size, 7.2 × 9.6 cm.

J. xxvi. 1856. P. 1.

867. Chart illustrating the remarks of Mr. Findlay, on the probable course pursued by Sir John Franklin's expedition; and of Capt'n Irminger on the arctic current around Greenland. Scale, 340 m. = in. Size, 33.5 × 30.6 cm. J. xxvi. 1856. P. 26.

868. American arctic expedition 1853-4-5. Map to accompany notes on the explorations made by the party under the command of Dr. E. K. Kane, U. S. Navy. By Dr. Henry Rink of Denmark. 1858. Scale, 42 m. = in. Size, 10.9 × 19.5 cm.

J. xxviii. 1858. P. 272.

869. Map of the north polar regions, to illustrate the paper on the origin and migrations of the Greenland Esquimaux, by C. R. Markham, Esq. Mean scale [ca. 70.5 m. = in.]. Size, 25.6 × 19 cm.

J. xxxv. 1865. P. 87.

870. Sketch of Baffin bay and the gateway to the North Pole. (On Mercator's projection.) Drawn for "Our ocean highways" by W. Hughes, F. R. G. S. Scale, 460 m. = in. Size, 21.3 × 31.5 cm.

O. H. ii. no. 2. 1872. P. [30].

871. [Map of Baffin's bay, by E. G. Ravenstein.] Scale, 1 : 20,000,000 [315.65 m. = in.]. Size, 7.6 × 11.5 cm. O. H. ii. no. 9. 1872. P. 293.

872. Albert expedition. Capt. Otto. November-December, 1872. Temperature of the surface of the sea. H. Mohn. 1873. Equatorial scale [ca. 297 m. = in.]. Size, 11.6 × 24.1 cm.

O. H. i. 1873. P. 104.

873. Six maps of the Smith sound route, illustrating the progress of exploration from Bylot and Baffin to Hall, 1616-1873. Compiled by E. G. Ravenstein.

a. Bylot and Baffin. 1616. Scale, 1 : 10,000,000 [157.83 m. = in.]. Size, 4.1 × 4.5 cm.

b. J. C. Ross. 1818. Scale, 1 : 10,000,000 [157.83 m. = in.]. Size, 5.3 × 4 cm.

c. Inglefield. 1852. Scale, 1 : 10,000,000 [157.83 m. = in.]. Size, 5 × 5.5 cm.

d. Kane. 1853-55. Scale, 1 : 10,000,000 [157.83 m. = in.]. Size, 5 × 7.4 cm.

e. Hayes. 1860-61. Scale, 1 : 10,000,000 [157.83 m. = in.]. Size, 5 × 8.1 cm.

f. Hall. 1871-73. Scale, 1 : 5,000,000 [78.91 m. = in.]. Size, 9.8 × 19.6 cm.

O. H. i. 1873. P. 133.

874. Map illustrating Capt. A. H. Markham's voyage in the "Arctic," 1873. Compiled by E. G. Ravenstein. Scale, 1 : 7,500,000 [118.37 m. = in.]. Size, 25.5 × 35.9 cm.

a. [Map of Lancaster sound with Milne Land and Byam Martin Land. From survey by Capt. Markham.] Scale [ca. 36 m. = in.]. Size, 14.8 × 3.1 cm.

b. [Creswell bay, North Somerset. From Capt. Markham's survey.] Scale [ca. 22 m. = in.]. Size, 5 × 6 cm.

O. H. i. 1873. P. 309.

875. Map of part of the northern Atlantic, showing the tracks of H. M. SS. 'Alert,' 'Discovery,' and 'Valorous,' 1875. Scale [ca. 186 m. = in.]. Size, 36.2 × 22.7 cm. G. M. ii. 1875. P. 292.

876. Chart showing the track of H. M. S. "Alert," from Uppernivik to the Cary islands, 22-26 July, 1875. Equatorial scale [ca. 178 m. = in.]. Size, 25 × 16.7 cm. G. M. ii. 1875. P. 329.

877. Arctic expedition, 1875-76 (Captain Nares, R. N.) Reduced from an Admiralty chart. Scale, 1 : 2,200,000 [34.72 m. = in.]. Size, 28 × 27 cm.

G. M. iii. 1876. P. 313.

878. The arctic regions [to illustrate C. R. Markham's paper on the arctic expedition of 1875-6]. Scale [ca. 422 m. = in.]. Size (diam.), 26.2 cm.

P. xxi. 1876-7. P. 537.

879. Arctic expedition, 1875-76 (Captain Nares, R. N.) Reduced from an Admiralty chart. Scale, 1 : 2,200,000 [34.72 m. = in.]. Size, 28.1 × 27 cm.

G. M. iv. 1877. P. 1.

880. Arctic expedition, 1875-6. Outward and return tracks on the sea ice extending northward to $83^{\circ} 20' 26''$ N. Made by the northern sledging party, under the command of Commander A. H. Markham, F. R. G. S., from H. M. S. Alert's winter quarters in Lat. $82^{\circ} 27'$ N., Long. $61^{\circ} 18'$ W., between April 3d and June 13th, 1876. Scale, 4 m. = in. Size, 18.7×37.3 cm. G. M. iv. 1877. P. 83.

881. Tracks of H. M. dog-sledge "Clements Markham," commanded by G. le C. Egerton, Sub. Lt., H. M. S. Alert. 1876. Scale [ca. 9 m. = in.]. Size, 20.2×29 cm. G. M. iv. 1877. P. 139.

882. Chart of Archer fiord [Grinnell Land], with sledge tracks April 8th to May 2nd, 1876. Scale [ca. 12 m. = in.]. Size, 16.8×16.9 cm. G. M. iv. 1877. P. 167.

883. Plan of Petermann fiord [Hall Land]. The coast line is taken from Lieut. Fulford's chart. Scale, *wanting*. Size, 8.6×16.9 cm. G. M. iv. 1877. P. 167.

884. King William Land, showing the line of retreat of the Franklin expedition. Scale [ca. 38 m. = in.]. Size, 14×20.9 cm. Pp. ii. 1880. P. 720.

885. Preliminary map of Wrangell island, from a survey by Capt. Berry, U. S. N., in the steamer "Rodgers;" to illustrate the paper by C. R. Markham, C. B., Secretary R. G. S. Scale, 28 m. = in. Size, 27.8×21.6 cm.

Behring strait, showing the position of Wrangell island. Scale [ca. 330 m. = in.]. Size, 9.4×7.1 cm. Pp. iv. 1882. P. 64.

B. Europe.

886. Chart of the ice-field between Spitzbergen and Nova Zembla in 1676. Scale [ca. 200 m. = in.]. Size, 13×9.6 cm. P. ix. 1864-5. P. 175.

887. Sketch map of the countries referred to in the Zeno narrative [North Atlantic and Arctic seas]. Equatorial scale [ca. 1150 m. = in.]. Size, 19.3×20.1 cm.

[Map of the North sea and neighbouring lands.] Scale [ca. 380 m. = in.]. Size, 5.6×5.2 cm. J. xliii. 1873. P. 157.

888. Carta da navegar de Nicolo et Antonio Zeni fvrno III tra montana I ano. M. ccc. lxxx. (Auto-type.) Scale [ca. 108 m. = in.]. Size, 38×28.2 cm. J. xliii. 1873. P. 157.

889. A map of the Siberian polar sea. Compiled by E. G. Ravenstein, F. R. G. S. Equatorial scale [ca. 680 m. = in.]. Size, 32.7×5.3 cm. O. H. ii. no. 11. 1873. P. 358.

890. Isothermals of the North Atlantic and Polar sea. (After Dr. Petermann.) Equatorial scale [ca. 1665 m. = in.]. Size, 17.9×10.9 cm. P. xviii. 1873-4. P. 370.

891. [Preliminary sketch of the discoveries of the Austrian polar expeditions, 1871-4.] Scale [ca. 260 m. = in.]. Size, 7.4×9.1 cm. G. M. i. 1874. P. 271.

892. Map of the north polar regions (to illustrate General Hauslab's paper) [on oceanic currents]. Scale [ca. 440 m. = in.]. Size, (diam.) 19.6×19.7 cm. J. xlv. 1875. P. 39. Pl. 2.

893. A map of the Kara sea, shewing Capt. Wiggins's tracks in 1874 and 1876. Scale, 1 : 3,000,000 [47.35 m. = in.]. Size, 49.1×41.5 cm. G. M. iv. 1877. P. 55.

894. The Swedish and Dutch arctic expeditions of 1878. Scale [ca. 12 m. = in.]. Size, 53.6×21.4 cm. Pp. i. 1879. P. 80.

895. Map of the Barents and Kara seas, illustrating the arctic campaign of 1879. Equatorial scale [ca. 166 m. = in.]. Size, 36.7×21.4 cm. Pp. ii. 1880. P. 80.

896. Ice chart of the Arctic ocean between Greenland and Spitzbergen. From observations by Capt'n David Gray. Equatorial scale [ca. 696 m. = in.]. Size, 23.5×32.4 cm. Pp. iii. 1881. P. 768.

2. Greenland.

897. Sketch of the west coast of Greenland, to illustrate a paper on icebergs in the arctic seas by Dr. H. Rink. 1853. Scale [ca. 48 m. = in.]. Size, 10.6×19.5 cm. J. xxiii. 1853. Art. x.

898. [Plan of the second fjord south of Arksut, Greenland.] Scale, *wanting*. Size, ca. 8×6 cm. P. xiv. 1869-70. P. 158.

899. [Sketch of the second fjord south of Arksut, Greenland.] Scale, *wanting*. Size, ca. 9.5×6 cm. J. xi. 1870. P. 230.

900. [Map of Greenland and Edge island, Spitzbergen.] From "Purchas his pilgrimes," vol. iii. Scale [ca. 44 m. = in.]. Size, 17.6×25.3 cm. J. xliiii. 1873. P. 83.

901. Sketch chart of the south west of Greenland, from the Danish Admiralty survey, corrected to 1873; with Professor Rafn's adaptation of the ancient sites from Ivar Bardsen's chorography. Scale [ca. 13 m. = in.]. Size, 33.2×19.6 cm. J. xliiii. 1873. P. 195.

902. Map of Mid Greenland, from the sketches and observations of Rink, Graah, Rohde, Steenstrup and Robert Brown. Equatorial scale [ca. 60 m. = in.]. Size, 20.6×21.7 cm. G. M. ii. 1875. P. 33.

903. Plan of the harbour of Holsteinborg (Greenland), and of its outlying islands and reefs. Surveyed after the grounding of H. M. S. Valorous, by Navigating Lieutenant George A. Broad, R. N. Scale, 3450 ft. = in. Size, 55.1×41.5 cm. G. M. ii. 1875. P. 304.

3. Iceland.

904. Map of Iceland, to illustrate the paper by W. L. Watts, Esq. Scale, 33 m. = in. Size, 25.3×19 cm. J. xlvi. 1876. P. 1.

905. Iceland, to illustrate the paper by Admiral Irrminger. Scale [ca. 81 m. = in.]. Size, 16.7×9.9 cm. J. xlix. 1879. P. 399.

906. East coast of Iceland, to illustrate the paper by Mr. W. G. Lock. Scale, 33 m. = in. Size, 13.1×21.7 cm.

[Sketch of the Askja lava field, Iceland.] From a survey by Lieut. Caroc. Scale, 1 : 200,000 [3.15 m. = in.]. Size, 9.3×5.6 cm. Pp. iii. 1881. P. 512.

907. Map of Iceland, to illustrate the paper by Mr. Cuthbert E. Peek. Scale, 33 m. = in. Size, 25.5×19 cm. Pp. iv. 1882. P. 192.

908. Plan of the Great Geysir and neighbourhood, from a survey by Mr. Cuthbert E. Peek and Mr. John Coles. Scale, 1 : 3240 [270 ft. = in.]. Size, 15.2×19 cm. Pp. iv. 1882. P. 192.

4. Spitzbergen.

909. Chart of Novaya Zemlya and the surrounding seas, showing the track of Barents on his 3d voyage, 1596-97. By Augustus Petermann, F. R. G. S. — Chart to illustrate A. Petermann's paper on the sea of Spitzbergen etc. (Taken by permission from the works of the Hakluyt Society.) Scale, 148 m. = in. Size, 27×20 cm. J. xxiii. 1853. Art. viii.

910. Map of Spitzbergen, to illustrate the paper by Professor Nordenskiöld and Capt'n von Otter. Equatorial scale [ca. 196 m. = in.]. Size, 19×24.3 cm. J. xxxix. 1869. P. 131.

911. [Map of Greenland and Edge island, Spitzbergen.] From "Purchas his pilgrimes," vol. iii. Scale [ca. 44 m. = in.]. Size, 17.5 × 25.3 cm.

J. xliiii. 1873. P. 83.

912. Latest edition of Van Keulen's chart of Spitzbergen. 1707. — Nieuwe afteekening van het Eyland Spits-Bergen, opgegeven door de Commandeurs Giles en Outger Rep, en in't Ligt gebracht en uitgegeven door Gerard van Keulen, Boek en Zee-kaart verkooper aan de Nieuwen brug mel privilegie voor 15 Jaaren. Scale [ca. 31 m. = in.]. Size, 21.3 × 31.3 cm.

J. xliiii. 1873. P. 83.

913. [Copies of the English and Dutch charts of Spitzbergen in the 17th and 18th centuries.]

a. Latest edition of Van Keulen's chart of Spitzbergen. 1707. — Nieuwe afteekening van het Eyland Spits-Bergen, opgegeven door de Commandeurs Giles en Outger Rep, en in't Ligt gebracht en uitgegeven door Gerard van Keulen, Boek en Zee Kaart verkooper aan de Nieuwen brug mel Privilegie voor 15 Jaaren. Scale [ca. 31 m. = in.]. Size, 21.5 × 31 cm.

b. From "Purchas his pilgrimes," Vol. iii. Scale [ca. 43 m. = in.]. Size, 17.5 × 25.1 cm.

O. H. ii. no. 12. 1873. P. 388.

914. North and east of Spitzbergen. A sketch from the Swedish charts and Dr. Petermann's maps by Keith Johnston, F. R. G. S. Scale [ca. 46 m. = in.]. Size, 20.9 × 30.7 cm.

O. H. ii. no. 12. 1873. P. 390.

915. Discoveries to the east of Spitzbergen, in 1872, by the Norwegian captains Altmann, Johnsen and Nilsen. From the original chart compiled by Professor H. Mohn, 1872. Equatorial scale [ca. 63 m. = in.]. Size, 45.5 × 29.5 cm.

O. Hh. i. 1873. P. 19.

5. Novaia Zemlia.

916. Map of Novaia Zemlia, by Ziwolka, of the Russ. Imp. Mar., 1836. Scale [96.3 m. = in.]. Size, 11.1 × 18.5 cm.

J. viii. 1838. P. 414.

917. Chart of Novaya Zemlya and the surrounding seas, showing the track of Barents on his 3d voyage, 1596-97. By Augustus Petermann, F. R. G. S. — Chart to illustrate A. Petermann's paper on the sea of Spitzbergen etc. (Taken by permission from the works of the Hakluyt Society.) Scale, 148 m. = in. Size, 27 × 20 cm.

J. xxiii. 1853. Art. viii.

918. The Matyushin shar (Mattschkin schar) and part of the east coast of Novaya Zemlya. Scale, 13.5 m. = in. Size, 14.3 × 21.1 cm.

Pp. ii. 1880. P. 80.

6. Franz Josef Land.

919. Map of Franz Joseph Land, illustrating an account of the Austro-Hungarian polar expedition, by Julius Payer. Scale, 1: 2,000,000 [31.57 m. = in.]. Size, 17.8 × 25.6 cm. G. M. i. 1874. P. 360.

920. Map of Franz Josef Land, from a survey by Julius Payer. Scale, 1: 1,500,000 [23.67 m. = in.]. Size, 18.2 × 25.5 cm.

J. xlv. 1875. P. 1.

921. Discoveries along the south coast of Franz-Josef Land by Mr. B. Leigh Smith, 1880. Equatorial scale [ca. 145 m. = in.]. Size, 25.9 × 21.9 cm.

Pp. iii. 1881. P. 192.

922. Plan of Flora cottage, Cape Flora, Franz Josef Land. Mr. Leigh Smith's winter-quarters. Scale, 7.6 ft. = in. Size, 10.6 × 14.4 cm.

Pp. v. 1883. P. 215.

923. Chart showing Mr. Leigh Smith's track to Franz Josef Land and boat journey to Novaya Zemlya in 1881-82. Equatorial scale [ca. 416 m. = in.]. Size, 26 × 21.4 cm.

Pp. v. 1883. P. 248.

7. South Polar Regions.

924. The south-polar regions, to illustrate the paper by Staff-Commander J. E. Davis. Scale [ca. 636 m. = in.]. Size, (diam.) 23.7 × 24 cm.

J. xxxix. 1869. P. 91.

925. [Map of the south-polar regions.]

a. Transit of Venus, 1882, Dec'r 6. Stations for observation of the egress of Venus. The sun ascending. Venus leaving the upper limb. Egress retarded by parallax . . . , to accompany the paper by Staff-Commander J. E. Davis, R. N. Scale [ca. 660 m. = in.]. Size, 19 × 11.2 cm.

b. Transit of Venus, 1882, Dec'r 6. Stations for observation of the ingress of Venus. The sun descending. Venus entering on the upper limb . . . , to accompany the paper by Staff-Commander J. E. Davis, R. N. Scale [ca. 660 m. = in.]. Size, 19.5 × 11.2 cm.

J. xxxix. 1869. P. 92.

IX. OCEANS AND ISLANDS.

i. Atlantic Ocean.

926. Track of H. M. Sloop Onyx in search of Aitkin's rock, under the command of Capt'n A. T. E. Vidal, R. N. 1830. Scale [ca. 28 m. = in.]. Size, 49.9 × 20.9 cm.

J. [i.] 1830-31. Art. iv.

927. Deception island, New South Shetland, by Lieut. E. N. Kendall. 1829. Scale [ca. 2.3 m. = in.]. Size, 12.3 × 18.5 cm.

J. [i.] 1830-31. Art. vi.

928. East Falkland island, from papers communicated by Woodbine Parish, Esq. Scale [ca. 10.5 m. = in.]. Size, 21.7 × 23.3 cm.

[Chart of Berkley sound, East Falkland island.] Scale, 4.7 = in. Size, 10.5 × 6.2 cm.

J. iii. 1833. Art. vi.

929. Part of the southern hemisphere, shewing recent discoveries. Scale [ca. 345 m. = in.]. Size (diam.), 26.2 × 26.5 cm.

J. iii. 1833. Art. viii.

930. The island of St. Mary's (Azores). 1845. Scale, 2 m. = in. Size, 10.8 × 19.4 cm.

J. xv. 1845. Art. vi.

931. The island of St. Michael's (Azores). 1845. Scale, 5.76 m. = in. Size, 10.8 × 19 cm.

J. xv. 1845. Art. vii.

932. The Formigas rocks (Azores), to illustrate the paper by Capt'n Vidal, R. N. Scale, 350 yds. = in. Size, 11.6 × 18 cm.

J. xix. 1849. Art. xv.

933. Chart of the prevalent surface currents of the Atlantic and Pacific oceans, by A. G. Findlay. Equatorial scale [ca. 1000 m. = in.]. Size, 34.3 × 19.6 cm.

J. xxiii. 1853. Art. xix.

934. Map of the North Atlantic ocean, showing the surveys and soundings for the Atlantic telegraph. Scale [ca. 178 m. = in.]. Size, 38.7 × 17.7 cm.

P. v. 1860-1. [P. 62.]

935. Chart of the currents off the Cape of Good Hope, to accompany Capt'n Toynbee's paper "On the specific gravity, temperature and currents of the sea," the result of a portion of five consecutive yearly voyages from England to India. Projected from the log-books by S. Com'dr C. George, map curator R. G. Soc'y. Scale, 10.36 m. = in. Size, 102.2 × 25.4 cm.

J. xxxv. 1865. P. 147.

936. Diagram of the Gulf Stream, to illustrate the paper by A. G. Findlay. Scale [ca. 428 m. = in.]. Size, 20.6 × 19.6 cm.

P. xiii. 1868-9. [P. 103.]

937. Surface temperatures of the North Atlantic, between Shetland and Greenland, collected by Admiral Irminger. Equatorial scale [ca. 213 m. = in.]. Size, 46.4 × 18.9 cm.

J. xl. 1870. P. 441.

938. Sketch map of the countries referred to in the Zeno narrative [North Atlantic and Arctic seas]. Equatorial scale [ca. 1150 m. = in.]. Size, 19.3 × 20.1 cm.

[Map of the North sea and neighbouring lands.] Scale [ca. 380 m. = in.]. Size, 5.6 × 5.2 cm.

J. xliiii. 1873. P. 157.

939. Carta da navegar de Nicolo et Antonio Zeni frvono III tramontana l ano . M. ccc. lxxx. (Autotype.) Scale [ca. 108 m. = in.]. Size, 38 × 28.2 cm.

J. xliiii. 1873. P. 157.

940. Map of the Færøe islands, to illustrate the route of Nicolo Zeno. Scale [ca. 6 m. = in.]. Size, 16.7 × 25.8 cm.

J. xliiii. 1873. P. 163.

941. Voyage of H. M.'s ship Challenger, Capt. G. S. Nares. 1873. Equatorial scale [ca. 520 m. = in.]. Size, 26.3 × 16.1 cm.

O. Hh. i. 1873. P. 272.

942. Isothermals of the North Atlantic and Polar sea. (After Dr. Petermann.) Equatorial scale [ca. 1665 m. = in.]. Size, 17.9 × 10.9 cm.

P. xviii. 1873-4. P. 370.

943. Track of H. M. S. Challenger. Cape Verde is'ds to the Cape of Good Hope. 1873. Scale [ca. 1300 m. = in.]. Size, 7.8 × 8 cm.

G. M. i. 1874. P. 183.

944. Contour chart of the Atlantic ocean, from soundings to 1874 [by Capt. J. E. Davis]. Equatorial scale [ca. 578 m. = in.]. Size, 34.1 × 41.2 cm.

G. M. i. 1874. P. 224.

945. Map of the north polar regions (to illustrate General Hauslab's paper) [on oceanic currents]. Scale [ca. 440 m. = in.]. Size (diam.), 19.6 × 19.7 cm.

J. xiv. 1875. P. 39. Pl. 2.

946. Map of part of the northern Atlantic, showing the tracks of H. M. SS. 'Alert,' 'Discovery' and 'Valorous,' 1875. Scale [ca. 186 m. = in.]. Size, 36.2 × 22.7 cm.

G. M. ii. 1875. P. 292.

947. Atlantic ocean [to illustrate the paper by Dr. Carpenter on the temperature of the deep-sea bottom]. Equatorial scale [ca. 694 m. = in.]. Size, 27.3 × 39.3 cm.

P. xxi. 1876-7. P. 317.

948. Northern portion of Atlantic ocean [to illustrate Dr. Carpenter's paper on the temperature of the deep-sea bottom]. Scale [ca. 325 m. = in.]. Size, 21.7 × 18.7 cm.

P. xxi. 1876-7. P. 319.

949. Chart showing the distribution of saltness in the ocean. Equatorial scale [ca. 2560 m. = in.]. Size, 29.8 × 16.5 cm.

J. xlvii. 1877. P. 73.

2. Mediterranean Sea.

950. Columbretes rocks near the coast of Valencia, by Capt'n W. H. Smyth, R. N., K. S. F., F. R. S. Scale [3036 ft. = in.]. Size, 12.2 × 16.8 cm.

J. [i.]. 1830-31. Art. v.

951. [Diagrams to illustrate General Hauslab's paper on oceanic currents.]

Fig. 1. Appearance of the bottom of the Adriatic sea. Scale [ca. 138 m. = in.]. Size, ca. 6 × 16 cm.

Fig. 2. Course of the descending river [Adriatic sea]. Scale [ca. 138 m. = in.]. Size, ca. 6 × 16 cm.

Fig. 3. Currents in the Adriatic sea. Scale [ca. 138 m. = in.]. Size, ca. 6 × 16 cm.

J. xlv. 1875. P. 34. Pl. i.

952. Map of Cyprus. 1878. Scale, 9 m. = in. Size, 41.5 × 25.2 cm.

G. M. v. 1878. P. 201.

953. Plan of Famagusta harbour [Cyprus]. Scale, 1800 ft. = in. Size, 10.4 × 18.3 cm.

Pp. i. 1879. P. 103.

3. Indian Ocean.

954. The Maldiva islands. From Capt'n Horsburgh's chart 1814. Equatorial scale [ca. 126 m. = in.]. Size, 11.7 × 20.1 cm. J. ii. [1832.] Art. v.

955. Sketch showing the course of the hurricane of April 1847, on the Malabar coast and the probable position of the H. C. S. F. Cleopatra at the time. By T. G. Carless, Capt'n I. N. Scale [ca. 172 m. = in.]. Size, 11.1 × 17.5 cm.

J. xix. 1849. I Append., no. 2.

956. Chart of the Bay of Bengal, shewing the currents of the s. w. monsoon, by Lieut. J. A. Heathcote, H. M. I. Navy. Scale [ca. 26 m. = in.]. Size, 22.1 × 19.5 cm.

J. xxxii. 1862. P. 234.

957. [Stereoscopic map of the island of St. Paul, Indian ocean, to illustrate a paper by F. Galton.] Scale, *wanting*. Size, 14.5 × 7.2 cm.

J. xxxv. 1865. P. 100.

958. Chart of the currents off the Cape of Good Hope, to accompany Capt'n Toynebee's paper "On the specific gravity, temperature, and currents of the sea," the result of a portion of five consecutive yearly voyages from England to India. Projected from the log-books by S. Com'dr C. George, map curator R. G. Society. Scale, 10.36 m. = in. Size, 102.1 × 25.4 cm.

J. xxxv. 1865. P. 147.

959. Probable track of hurricane or cyclone [in Indian ocean] May, 1871. Scale [ca. 455 m. = in.]. Size, 7.6 × 5 cm.

G. M. i. 1874. P. 239.

960. [Sketch of track of "Challenger," Cape of Good Hope to Melbourne.] Scale [ca. 1120 m. = in.]. Size, 15.5 × 5.8 cm.

G. M. ii. 1875. P. 39.

961. [Sketch map of the Nicobar islands] Scale, 1 : 5,000,000 [78.91 m. = in.]. Size, 4 × 6.4 cm.

G. M. ii. 1875. P. 44.

962. Indian ocean. Map of the Cocos or Keeling islands, exhibiting the changes that have taken place since 1836. Scale [ca. 1.3 m. = in.]. Size, 23.3 × 21.3 cm.

North island. Scale [ca. 4900 ft. = in.]. Size, 7.3 × 5.3 cm.

General map showing the relative position of the islands. Scale [ca. 11.4 m. = in.]. Size, 5 × 7.5 cm.

Pp. i. 1879. P. 816.

963. Map of the Andaman islands, illustrating the distribution of the tribes, to accompany the paper by E. H. Man, Esq., and Lieut. R. C. Temple. Scale, 17.5 m. = in. Size, 18.9 × 35.8 cm.

J. l. 1880. P. 255.

964. Sketch map of South Andaman and adjacent islands, to accompany the paper by E. H. Man, Esq., and Lieut. R. C. Temple. Scale, 5.25 m. = in. Size, 19.3 × 35.9 cm.

J. l. 1880. P. 255.

4. Pacific Ocean.

965. Chart of the prevalent surface currents of the Atlantic and Pacific oceans, by A. G. Findlay. Equatorial scale [ca. 1000 m. = in.]. Size, 34.3 × 19.6 cm.

J. xxiii. 1853. Art. xix.

966. Fiji islands. Map of the River Rewa and its tributaries, in the island of Na Viti Levu, to illustrate a paper by I. [J.] D. Macdonald, Esq., H. M. S. Herald. 1856. Scale, 5.76 m. = in. Size, 30.9 × 19.7 cm.

J. xxvii. 1857. P. 232.

967. Chart of the Sandwich islands, to accompany the paper by the Bishop of Honolulu [Thomas Staley]. Scale [ca. 35 m. = in.]. Size, 27.7 × 19.3 cm.

J. xxxviii. 1868. P. 361.

968. Chart of Rapa-Nui, or Easter Island (South Pacific ocean), to accompany the paper by J. L. Palmer, Esq., R. N. Scale [ca. 1.5 m. = in.]. Size, 24 × 18.7 cm.

J. xl. 1870. P. 167.

969. The Solomon, New Hebrides, and Santa Cruz groups (South Pacific ocean), to illustrate the paper by Lieut. A. H. Markham, R. N. Scale [ca. 68.7 m. = in.]. Size, 34.4 × 41.8 cm.

J. xlii. 1872. P. 213.

970. Map of the Viti or Fiji islands, principally from surveys and explorations, by Com'r Wilkes, U. S. N., Capt. H. M. Denham, R. N., 1857, Col. W. J. Smythe, B. Seemann, E. Graeffe and others; by E. G. Ravenstein. Scale, 1: 1,200,000 [18.94 m. = in.]. Size, 15.7 × 31.7 cm.

Ovalau. From a survey by Capt. H. M. Denham, 1856. Scale, 6.5 m. = in. Size, 5.6 × 8.8 cm.

G. M. i. 1874. P. 60.

971. Chart showing the distribution of saltness in the ocean. Equatorial scale [ca. 2560 m. = in.]. Size, 29.8 × 16.5 cm. J. xlvii. 1877. P. 73.

972. Sketch survey of the north-east portion of New Britain by Mr. Wilfred Powell, 1878-9. Scale, 16 m. = in. Size, 35.7 × 21.5 cm.

[Sketch map showing the position of New Britain and the neighbouring islands.] Scale [ca. 206 m. = in.]. Size, 11.8 × 8.3 cm.

Pp. iii. 1881. P. 128.

X. MISCELLANEOUS.

i. Astronomical.

973. [Map of the south polar regions.]

a. Transit of Venus, 1882, Dec'r 6. Stations for observation of the egress of Venus. The sun ascending. Venus leaving the upper limb. Egress retarded by parallax . . . , to accompany the paper by Staff-Commander J. E. Davis, R. N. Scale [ca. 660 m. = in.]. Size, 19 × 11.2 cm.

b. Transit of Venus, 1882, Dec'r 6. Stations for observation of the ingress of Venus. The sun descending. Venus entering the upper limb . . . , to accompany the paper by Staff-Commander J. E. Davis, R. N. Scale [ca. 660 m. = in.]. Size, 19.5 × 11.2 cm. J. xxxix. 1869. P. 92.

2. Magnetic.

974. [Map of the world showing] lines of equal magnetic variation, or declination (isogonic lines). 1878. Scale [ca. 3170 m. = in.]. Size, 21.7 × 11.2 cm. P. xxii. 1877-8. Pl. 1. P. 216.

975. Terrestrial magnetic meridians, and curves of equal dip, or inclination (isoclinical lines). 1878. Size, ca. 19.5 × 11.5 cm. P. xxii. 1877-8. Pl. 2. P. 216.

976. The earth's magnetism, as shown by:

1. The distribution of lines upon the earth's surface passing through points of equal total force. (1878.)

2. The position of the magnetic poles and the line of no dip, or the magnetic equator.

3. The regions of blue and red magnetism. Size, ca. 22 × 13 cm. P. xxii. 1877-8. Pl. 3. P. 216.

3. Thermometrical.

977. Surface temperatures of the North Atlantic, between Shetland and Greenland, collected by Admiral Irminger. Equatorial scale [ca. 213 m. = in.]. Size, 46.4 × 18.9 cm. J. xl. 1870. P. 441.

978. Albert expedition. Capt. Otto. November-December, 1872. Temperature of the surface of the sea. H. Mohn. 1873. Equatorial scale [ca. 297 m. = in.]. Size, 11.6 × 24.1 cm. O. Hh. i. 1873. P. 104.

979. Isothermals of the North Atlantic and Polar

sea. (After Dr. Petermann.) Equatorial scale [ca. 1665 m. = in.]. Size, 17.9 × 10.9 cm.

P. xviii. 1873-4. P. 370.

980. Atlantic ocean [to illustrate the paper by Dr. Carpenter on the temperature of the deep-sea bottom]. Equatorial scale [ca. 694 m. = in.]. Size, 27.3 × 39.3 cm. P. xxi. 1876-7. P. 317.

4. Meteorological.

981. Sketch showing the course of the hurricane of April 1847, on the Malabar coast, and the probable position of the H. C. S. F. Cleopatra at the time. By T. G. Carless, Cap'n I. N. Scale [ca. 172 m. = in.]. Size, 11.1 × 17.5 cm. J. xix. 1849. I. Append. no. 2.

982. Sketch map to illustrate Professor Abich's paper on the climatology of the Caucasus. Scale [ca. 240 m. = in.]. Size, 19.4 × 10.9 cm. J. xxi. 1851. Art. i.

983. [Diagram representing the midsummer position of the earth, to illustrate a paper by W. E. Hickson on the climate of the north pole.] Size, ca. 10 × 10 cm. J. xxxv. 1865. P. 131.

984. Map to illustrate the winds of northeast Australia, to accompany the paper by Dr. A. Rattray, M. D., R. N. Scale [ca. 143 m. = in.]. Size, 25.3 × 19.5 cm. J. xxxviii. 1868. P. 370.

985. Map illustrating the climate and physical geography of north-east Australia, to accompany the paper by Dr. A. Rattray, M. D., R. N. Scale [ca. 835 m. = in.]. Size, 34.4 × 19.8 cm. J. xxxviii. 1868. P. 381.

986. Rainfall and forest trees in India. Drawn for "Ocean highways: the geographical record" by A. Keith Johnstone, F. R. G. S. Scale, 260 m. = in. Size, 20.9 × 29.6 cm. O. H. ii. no. 7. 1872. P. 202.

987. Rain map [of southern India]. Scale [ca. 193 m. = in.]. Size, 6.5 × 7.1 cm. G. M. i. 1874. P. 329.

5. Geological.

988. Sketch map showing the mineral and silk districts of the province of Shan-Tung (China), to accompany the paper by J. Markham, Esq., H. M. Consul at Chefoo. Scale, 32 m. = in. Size, 37.1 × 24.3 cm. J. xl. 1870. P. 207.

989. Geological map of eastern Turkey, by F. von Hochstetter. Scale, 1: 2,000,000 [31.57 m. = in.]. Size, 34.7 × 24 cm. O. Hh. i. 1873. P. 328.

6. Botanical.

990. Rainfall and forest trees in India. Drawn for "Ocean highways: the geographical record" by A. Keith Johnstone, F. R. G. S. Scale, 260 m. = in. Size, 20.9 × 29.6 cm. O. Hh. ii. no. 7. 1872. P. 202.

991. The distribution of the caoutchouc tree, or *Ficus elastica*, in Assam. By Gustav Mann. Scale, 32 m. = in. Size, 46.4 × 21.9 cm. O. Hh. i. 1873. P. 67.

992. Physical map of west coast of Africa, by H. H. Johnstone. Scale [ca. 229 m. = in.]. Size, 11 × 21.3 cm. Pp. v. 1883. P. 752.

NOTE. The sub-heading 5. Central Asia was accidentally omitted between nos. 164 and 165.



REFERENCE LIST.

* * * For the better identification of the individuals mentioned in the foregoing index the Compiler has given the full name so far as obtainable by him. In view of the fact that on the maps the explorer is sometimes referred to by initials, sometimes by surname alone, and rarely by the full Christian name, no attempt has here been made to indicate typographically the form in which the name stands in the index entry.

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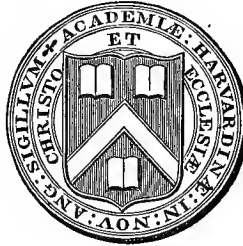
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No. 18.



A BIBLIOGRAPHY OF PTOLEMY'S GEOGRAPHY.

By JUSTIN WINSOR.

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A BIBLIOGRAPHY OF PTOLEMY'S GEOGRAPHY.

BY JUSTIN WINSOR,

Librarian of Harvard University.

*** An annotated list of editions of the original and augmented texts and translations, and of Wyttfiet's Continuation, with particular reference to the development of early American Cartography; and with an enumeration of copies in American libraries.

1462.

Title: *Cosmographia, latine reddita, a Jacobo Angelo, cum castigationibus Hieron. Manfredi et Petri Boni.*

Colophon: *Hic finit cosmografia Ptolemei. Impressa opa Dominici de lapis civis bononiensis, anno M.CCCC.LXII, mense Junii xxiii, Bononie.* (Copied from Brunet.)

Description: This is the earliest of printed editions, if it exists; but bibliographers generally reject it. Copies are put down in Dibdin's *Bibliotheca Spenceriana* and in the *Walckenaer Catalogue* (formerly of the Colbert library), and another is in the Henry C. Murphy library of Brooklyn; but Mr. Murphy agreed with most authorities in thinking that its date should probably be 1482. Lanzi, *Storia Pittorica*, 1795-96, i. p. 97, places it about 1472. The question has been made the subject of a special treatise: *Observazioni su la Edizione della Geografia di Tolomeo fatta in Bologna colla data de M.CCCC.LXII, Esposte da Bartolommeo Gamba.* Bassano, 1796, 4^o, pp. 50.

De Bure used the Gaignat and Lauragais copies in his account, and seems to prefer 1472; and Gamba, who used a copy in the Casa Foscarini at Venice, inclines to the same view. Dibdin, in the *Bibl. Spenc.*, calls it spurious, and depends for his long note largely on Gamba preferring, however, 1482, as the date, as does the *Crevenna Catalogue* (1789) iv. 5708, and Hain, *Repert. Bibl.* v. See further references on this point in Græsse, *Trésor de livres*, v. 499.

Maps. With 26 maps, or plates, three of which are reproduced by Dibdin, who says they were usually colored. They are: 1 Mappemonde; 10 of Europe; 4 of Africa; 10 (but some give 11) of Asia, and 1 for the islands of India.

Copies (L.) *Henry C. Murphy library* (Brooklyn). First leaf missing, — fine otherwise; has the maps of the 1478 edition inserted.

References: *Bibliotheca Spenceriana*, ii. 293, for a copy bought at the Firmin Didot sale in Paris, in 1810, "for an exorbitant sum" (400 fr.). De Bure, *Bibliographie Instructive* (1763-68), v. 32; Lelewel, *Géographie du Moyen Age*, ii. 207; Brunet, *Manuel*, iv. 952; *Walckenaer Catalogue* (1833), no. 2238 (360 fr.); Audiffredi, *Éditionum Italicarum* (1794), p. 12; Heineken, *Idée Générale d'une Collection Complète d'Estampes*, 145; Hain, *Repertorium Bibliographicum*, no. 13538; Græsse, *Trésor de Livres*, v. 499; *La Vallière Catalogue* (416 francs); *Crevenna Cata-*

logue (130 florins); Hoffmann, *Bibliog. Lexicon*, iii. 492; Hager, *Geograph. Büchersaal*, ii. 307; Rumohr, *Untersuch. d. Gründe &c.* Leipsic, 1841, p. 40.

1475.

Title: [*Cosmographia, latine reddita a Jac. Angelo.*]

Colophon: *En tibi lector Cosmographia Ptolemei ab Hermanno leuulapide Coloniensi Vincencia accuratissime impressa. Benedicto Triuisano: & Angelo Michaelae praesidibus. M.CCCC.LXXV. Idi. sept.* (Copied from the *Carter-Brown Catalogue.*)

Description: Folio. The first undisputed edition, published by Ang. Vadius and Barnabas Picardus. The initial letters are usually in gold and colors; sometimes rubricated. The bibliographies vary as to the number of folios (containing 39 lines each), apparently as they include or omit blank leaves. Panzer, Leclerc, and Sunderland give 142. Brunet, *Carter-Brown*, Græsse give 144. The Grenville copy has an appendix of seven additional leaves.

The *Carter-Brown Catalogue* says: "The signatures, which are confused in their arrangement, begin with aa² and end with G⁵"

Angelo's translation, the first made in latin, had been produced at Florence in 1409, and was dedicated to Pope Alexander V., and in the next year, Pierre d'Ailly, the cardinal of Amiens, referred to it in his *Imago Mundi*, and emphasized Ptolemy's opinion of India's lying over against Spain. We have other evidences of the spreading acquaintance with Ptolemy's views in Europe (Thomassy, *Les Papes Géographes*, p. 15, 34), and we know how D'Ailly's writings influenced the views of Columbus.

Pomponius Mela had been the representative among the ancients of the opposite school of geographers, who looked for the extension of the known world to the south of the equator. It may be claimed of the later developments, that the Spaniards in Columbus's sailing west justified the Ptolemy view; the Portuguese in Vasco de Gama's circumnavigating Africa proved the opposing theory; while Magellan brought both into complementary relation.

Maps: Without maps.

Copies: (1) *Library of Congress*, 142 leaves, not 144, as given in its catalogue. (2) *Carter-Brown library* (Providence). (3) *Henry C. Murphy library.*

References: *Catalogue of Library of Congress* (1867), p. 332; *Carter-Brown Catalogue*, i. no. 583;

Brunet, *Manuel*, iv. 951; Grasse, *Trésor de Livres*, v. 499; *Hull Catalogue*, iv. p. 1199; Leclerc, *Bibliotheca Americana* (1878), no. 463 (150 fr.); *Sunderland Catalogue*, iv. no. 10,353; *Walckenaer Catalogue*, no. 2235 (36 francs); *Bibliotheca Spenceriana*, ii. 292; Hain, *Repertorium Bibliographicum*, 13,536.

1478.

Title: [*Cosmographia, Latine*] Colophon: *Numeros Mathematicos inexplicabile ferme terre astrorumque opus Claudii Ptolemæi Alexandrini philosophi Geographiam Arnoldus Buckinck e Germania Rome tabulis æneis in picturis formatam impressit. Sempiterno ingenii artificieque monumento. Anno dominici natalis M.CCCC.LXXVIII. vi Idus Octobris Sedente Sixto, iiii. Pont. Max. anno ejus viii.* (Copied from Brunet, and corrected by a transcript from the Carter-Brown copy, furnished by Mr. J. R. Bartlett.)

Description: The dedication says that Domitius Calderinus is the editor, who collated Latin manuscripts with a very ancient one, corrected by Gemistus. Conrad Sweynheym, a German, took care of the press; and when he died, after spending three years upon it, Arnold Buckinck succeeded him, and finished the work. The Bibliothèque Nationale at Paris has a copy on vellum. There are 70 folios; but the last is blank, and excepting the preface, etc., it is printed in columns of 50 lines each. The preface is on the reverse of the first leaf, and is entitled: "Claudii Ptolemei Alexandrini Philosophi Cosmographia." On the recto of the following leaf: "Claudii Ptolemei Cosmographie liber primus hec habet." The first leaf of the text at the top of the second column: "Claudii Ptolemei viri Alexandrini Cosmographie liber primus incipit. In quo differt Cosmographia a Chorographia." On the 69th folio, recto, second column: "Claudii Ptolemei viri alexandrini Cosmographie octavus et ultimus liber finit." Same folio, verso, first column, the Colophon; second column: "Registrum foliorum huius libri," (34 lines), which state that the second and fourth gatherings are in tens, and the first, third, fifth, sixth, seventh, and eighth are in eights.

Mr. Bartlett says of the copy thus collated, which has been added to the Carter-Brown library since its *Catalogue*, vol. i, was printed: "The dots to the *i*'s are invariably omitted. The ink is black, and holds its color remarkably well. The capital letters, beginning chapters and paragraphs, are in red and blue, and the large letter C at the beginning of the volume is red, surrounded by a simple blue border and scroll."

Maps: The first edition with maps, which are 27 in number, and engraved on copper, making the earliest instance of such engravings. They are described by Brunet as the finest ever engraved for any edition of Ptolemy; even superior to those of Mercator. They consist of one of the World, ten of Europe, four of Africa, and twelve of Asia.

Santarem (*Hist. de la Cartographie*, ii. p. LI) expresses the opinion that the Agathodemon series of maps, belonging to the old mss. of Ptolemy were not known to the map-makers of the middle ages, before the fifteenth century; and that the travels of Marco Polo had exerted no influence upon the geographical ideas of the thirteenth and fourteenth centuries.

The influence of Ptolemy on the cartographical ideas of the middle ages have been examined by Lelewel, *Géog. du Moyen-Age*, ii. 124.

M. Libri claims that maps engraved on metal first appeared in the following: *In questo volume si contengono sette giornate della geographia di Francesco Berlingieri, etc. Impresso in Firenze per Nicolo Todesco.* The book is without date, and is usually assigned to 1480. It has 123 folios and 31 maps, and they are inferior in execution to those of Ptolemy. There are some varieties of the book. Cf. Robert de Vaugondy, *Essai sur l' Histoire de la Géographie*; Brunet, *Manuel*, i. 790, *Supplément*, i. p. 111, and a *Noticia libri rarissimi geographiæ Fr. Berlinghieri florentini, scripsit Chr. Th. de Murr*, Norimbergæ, 1790. The Murphy library has a copy of Berlingieri, "extremely valuable for its maps." The *Hull Catalogue*, i. p. 133, gives the book with this title: *Geographia di Francesco Berlinghieri in terza rima et lingua Toscana, etc.*, but thinks the title "no doubt printed at a much later date than the body of the book; and some copies have the first page quite blank." Quaritch priced a copy in 1880, at £63. *A Catalogue des monuments typographiques de feu M. Benj. Fillon*, no. 26 (sold in Paris, Jan. 1883), shows a copy, with a long note on the varieties in copies known.

The Ptolemy maps are also of interest as showing the views regarding the Western Ocean, prevalent a few years before the sailing of Columbus. Consult Davezac "Sur les Iles fantastiques de l'Océan occidental au moyen âge" in the *Nouvelles Annales des Voyages*, Mar. and Apr. 1845, and his paper on the Laon globe with a projection of it in *Bull. de la Soc. Géog.* (1860) xx. 417. This globe also shows an island "Antela" off the coast of Spain, and Davezac says that, according to Pierre de Medina, the copy of Ptolemy which was presented to Pope Urban (died 1380) also had a map showing a corresponding Antillia. Behaim's globe puts it much farther away than the Laon globe, and says that it had been observed by a Spanish vessel in 1414. The Laon globe would seem to represent the knowledge of about 1486-87, though it has a date upon it of 1493. In 1456 a Genoese, Bartolomeus de Pereto, also made a hydrographical chart of the western ocean, on which a western island is called "Antilia," and one more westerly is named "Roillo." The Canaries are called the "Iles fortunées de Saint Brandum." Cf. Thomassy, *Les Papes Géographes*, p. 20, who says the map is in the Bibliothèque Nationale at Paris; and Santarem's *Hist. de la Cartographie*. Desimoni in his "Elenco di carte di autore genovese oppure in Genova fatti o conservati," published in *Giornale Ligustico*, claims the production for Genoa, and says it is inscribed: "Pbr. Bartholomeus de Pareto civis Janue acolitus Smi Dni nri Pape composuit hanc cartam MCCCCLV in Janua."

The map of André Bianco (preserved in the Biblioteca Marciana at Venice) had also given some indications of western islands as early as 1436, and it has been made the subject of an examination by Vincenzo Formaleoni, who printed a paper in Italian in 1783, *Saggio sulla nautica antica dei Veneziani*, pp. 60 (according to Sabin's *Dictionary*, a rare tract) and which appeared in a French version in 1788, published at Venice, with this title: *Essai sur la marine ancienne des Venitiens, dans lequel on a mis en jour plusieurs cartes tirées de la bibliothèque de St. Marc, antérieures à la découverte de Colomb, et qui indiquent clairement l'existence des illes Antilles; traduit de l'italien par le Chevalier d'Henin*. Formaleoni was inclined to place this map much earlier than 1436, but Santarem gives an inscription on one of the maps: "Andreas Bianco de Venetiis me fecit MCCCXXXVI." (*Hist. de la Cartographie*, iii. 369.)

Bianco's map, which appeared in this Essay, has also been reproduced in *Il Mercurio italicò*, London 1789; and later in Santarem's *Atlas*. A full-size photographic reproduction of it in ten sheets, with an introduction by Oscar Peschel, was published at Venice in 1871. Cf. D'Anse de Vilvoisen in Carli's *Lettres Américaines* ii. p. 519; and Zuria's *Dissertation on the ancient Venetian Charts*. A "Carta nautica membranacea dell' anno 1448" of Bianco, which is now in the Biblioteca Ambrosiana at Milan, was reproduced by photography in four sheets at Venice in 1881.

The student of Columbian cartography must always regret the disappearance of the map which Toscanelli sent to Columbus in 1474, those of the father-in-law of Columbus, Pallestrello, which came into the great navigator's hands at his marriage, and the map which Bartholomew Columbus presented to Henry VII., and issued in London in February, 1488 (cf. Kohl's *Catalogue of Maps in Hakluyt*, p. 8 and his paper on *Lost maps*; Humboldt's *Exam. Critique*, i. 239). We can best judge of the configuration which these map-makers gave to the western ocean by the use which Behaim probably made of them, or of the information which they embodied, in his famous globe preserved at Nuremberg. The earliest known facsimile of this globe appeared in 1730 in Johann Gabriel Doppelmayr's *Historische Nachricht von den nürnbergischen Mathematicis und Künstlern*. Stevens, *Hist. Coll.* i. no. 1396, speaking of this book says: "Among the twenty copperplates is the earliest facsimile of Behaim's globe, taken before that globe had been restored, and before some of the names were lost. For instance, we here find *India patalis*, a name now effaced from the globe, but which may hint the origin of Oronce Fine's *Regio patalis* in his map of 1532, which has so much puzzled geographers." Cf. Gosselin, *Géog. Système des Anciens*, iii. 201. A representation of the globe in Ruge's *Geschichte des Zeitalters der Entdeckungen* has the true outline of North America drawn in, which makes the western coast of Mexico bisect the island of Zипangu.

Cf. the paper on "Martin Behaim's globe and his influence upon geographical science," in the American Geographical Society's *Journal*, iv. (1872) p. 432.

There are other representations of this globe in Jomard's *Monuments de la Géog.*; Ghillany's *Martin Behaim*, and his *Der Erdglobus des Martin Behaim und der des Joh. Schoner*, Nuremberg, 1842; C. G. von Murr's *Diplomatische Geschichte des Ritters Martin Behaim*, Nürnberg, 1778; and again, 1801, and the French version of the same by H. J. Jansen, published in a third edition at Strassbourg in 1802; Cladera's *Investigaciones* 1794, which has a Spanish version of Von Murr's paper; Lelewel's *Moyen Age*; Royal Geog. Society's *Journal*, xviii.; Kohl's *Disc. of Maine*; Irving's *Columbus*; Bryant & Gay's *United States*, i. 103; *Harper's Monthly*, xlii.; H. H. Bancroft's *Central America*, i. 93. Cf. also Pigafetta's *Premier voyage autour du monde; suivi d'une notice* [by C. G. von Murr, translated by H. J. Jansen] *sur M. Behaim et son globe terrestre*, Paris, 1800; Robert Dodge on Behaim and his globe, and John G. Morris's account of Behaim in the publications of the Maryland Historical Society.

The *Catalogue of the manuscript maps in the British museum*, 1844, vol. i. shows several Portolani of the century preceding Columbus; cf. also *British museum MSS.* no. 22329 (anno 1472) and the enumeration of maps in Santarem's *Histoire de la Cartographie*.

Copies. — (1) *Carter-Brown Library*, — sound and perfect, bound in olive morocco by Bedford.

The copy in the Murphy library has the maps belonging to it, inserted in the 1462 (?) edition.

References. — *Bibliotheca Spenceriana*, iv. 537, describing a copy bought at the Merly sale for £31 10s., — eleven maps being lacking, with facsimiles of parts of the maps; *Walckenaer Catalogue*, no. 2236 (975 francs); *Perkins Catalogue*, London, June, 1873, £80, — a copy afterwards advertised in a London catalogue for £100; Brunet, *Manuel*, iv. 952, *Supplément*, ii. 328. Quaritch in February, 1879 (*Catalogue*, 321, no. 11,697), advertised a copy at £80, and referred to a copy sold in a London auction room, four years earlier, at £90. Raidelius, *Commentatio critico-litteraria de Ptolemai Geographia ejusque codicibus tam manuscriptis quam typis expressis*, Norimbergæ, 1734, cap. vii; Audiffredi, *Catalogus Romanarum editionum*, p. 229; Stevens, *Bibliotheca Geographica*, no. 3057; Crevenna, *Catalogue raisonné* (1775), v. 14; and *Catalogue* (1789), iv. no. 5707 (120 florins); Duc de la Vallière, *Catalogue*, no. 4480 (242 francs); P. Laire, *Index librorum*; Hibbert, *Catalogue* (£19 19s.); *Bibliotheca Grenvilliana*, ii. 581; Hain, *Repertorium Bibliographicum*, no. 13,537; Quaritch, *Catalogue* (1880), p. 1153; Grasse, *Trésor de livres*, v. 499.

1480.

Thomassy, *Les Papes Géographes*, p. 22, cites a Bologna edition of this year.

1481.

Thomassy, *Les Papes Géographes*, p. 22, cites a Florence edition of this year.

1482.

Title: *Cladii Ptolemei viri Alexandrini Cosmographie, liber primus incipit.*

Colophon: *Claudii Ptolemei viri Alexandrini cosmographie octavus et ultimus liber explicit: opus Domini Nicolai Germani secundum Ptolemeum finit, anno MCCCCXXXII, Augusti vero kalendas xvii, impressum Ulme per ingeniosum virum Leonardum Hol prefati oppidi civis.* (Copied from the *Fillon Catalogue*).

Description: The latin text is Jacobus Angelo's, in this edition revised by Donnis or Donis, a Benedictine of Reichenbach in Bavaria. The capital letters and borders are illuminated, — a specimen of which is shown in the facsimile of the first page given in the *Carter-Brown Catalogue*, i. p. 1. Printed in two columns of forty-four lines each. Some copies are on vellum; such are in the Bibliothèque nationale at Paris, the British museum, and at Althorpe (Earl Spencer's). There are some variations in copies. A second impression only seems to have the Register of forty-six folios printed in two columns in smaller type, fifty-seven lines each. A full collation requires sixty-nine unnumbered leaves. Some copies have seventeen additional leaves, with table of chapters. The *Bibliotheca Spenceriana*, ii. 301, gives a facsimile of the wood-cut representing Donis presenting the book to Pope Paul II., and of the wood-cut of Ptolemy, which begins the text.

Maps. — Thirty-two in number, cut on wood, occupying double leaves, usually colored. They are: one of the world, fourteen of Europe, four of Africa, and thirteen of Asia. The map of the world is

marked: "Insculptum est per Joannē Schnitzer de Armszheim." The only part of America shown is Greenland, and called "Engroneland." This is said to have been made by Donis before 1471, and is one of the five maps added to this edition by him, — "curam mapparum gerente Nicolao Donis, Germano." It is believed to be the earliest known configuration of Greenland, given on any published map, for if we accept the Zeno chart with its alleged date of about 1400, it is to be borne in mind that it was not engraved till 1558. That map also, like this, made the peninsula a prolongation of Europe in a westerly direction. It is a fair deduction that Donis was acquainted with the productions of the Norse map-makers. The most westerly land which he gives is the Azores. Santarem, *Hist. de la Cartog.*, iii. p. xix. says the earliest representation of Greenland on any manuscript map occurs in the Mappemonde of 1447, preserved in the Pitti palace.

In the Laon globe (1486-87) "Grolandia" is put down as an island off the Norway coast.

Leclerc, *Bibl. Amer.*, no. 469, prices the maps only at 150 francs.

Copies. — (1) *Carter-Brown library*. (2) *Henry C. Murphy library* (with the maps plain).

References. — *Carter-Brown Catalogue*, i. no. 1; *Bibliotheca Spenceriana*, ii. 301; *Chatsworth Catalogue*, iii. 268; Brunet, *Manuel*, iv. 952, 953; Audiffredi, *Cat. Romanarum Editionum* (1783), p. 252; Leclerc, *Bibl. Americana*, no. 469; Hain, *Repertorium*, 13, 539; *Bibliotheca Grenvilliana*, 581; Van Praet, *Livres sur vélin*, v. 1, vi. 124 with references; *Walckenaer Catalogue*, no. 2240, 2241 (185 francs); Grässe, *Trésor de livres*, v. 500; Panzer, *Annales Typog.*, ii. 480; Hassler, *Buchdruckergeschichte Ulms*.

1486.

Title. — *Ptolomæi Geographia latine reddita a Jacobo Angelo, curam mapparum gerente Nicolao Donis Germano.*

Colophon. — *Impressum Ulmæ opera et expensis Justi de Albano de Venetiis per provisorum suum Johannem Reger, anno M.CCCC.LXXXVI. Kalend Augusti.* (Copied from Brunet.)

Description. Folio. This is the Angelo Latin version, with some additions. The initial letters are handworked in colors. In roman letter, double columns, of 44 lines each, having 204 folios in all; *i. e.* 42, table and nota; 74, text; 64, maps; 24, "De locis ac mirabilibus mundi."

Maps: The same thirty-two wood-cut maps, colored, as in the 1482 edition.

Copies. — (1) *Henry C. Murphy library*. (2) *George W. Riggs* (Washington, D. C.), with manuscript marginal notes in Latin, — the first leaf before the table of names wanting.

References: Dibdin, *Descriptive Catalogue* (1823), p. 105; Hain, *Repertorium*, 13, 540; *Sunderland Catalogue*, iv. 10, 354; Brunet, *Manuel*, iv. 953; Muller, *Books on America* (1877), no. 2017; (1875) no. 3243; Van Praet, *Livres sur vélin, suite*, iii. p. 2; Grässe, *Trésor de livres*, v. 500; Quaritch priced a copy recently at £8 8s.

1490.

Title: *Claudii Ptolemaei Geographiæ libri viii.*

Colophon: *Hoc opus Ptholomæi memorabile quidem et insigne exactissima diligentia castigatum iucundo quo-*

dam caractere impressum fuit et completum Rome anno a nativitate domini M.CCCC.LXXX. die iv Novembris. Arte ac impensis Petri de Turre. (Copied from Audiffredi.)

Description: Folio. 118 (Brunet says 119) leaves, of which 4 are blank, and in two columns of 53 lines each; the "Registrum Alphabeticum" takes 34 leaves.

Maps: 27 copperplate maps, the same as in the 1478 edition, including one of the World, 10 of Europe, 4 of Africa, and 12 of Asia.

Copies: (1) *Carter-Brown library*. (2) *Henry C. Murphy library*.

References: *Carter-Brown Catalogue*, no. 584; Leclerc, *Bibl. Amer.*, no. 470 (200 francs); Brunet, *Manuel*, iv. 954; Hain, *Repertorium*, 13541; Audiffredi, *Cat. Rom. edit.*, p. 299; Grässe, *Trésor de livres*, v. 500; *Walckenaer Catalogue*, no. 2242 (60 francs); *Crevenna Catalogue* (quarto), v. 18.

1500 (?).

Title: *Cl. Ptolomæi Geographiæ libri viii.*

Description: Folio. Noted by Butsch, but thought to be apocryphal.

Maps: 27 on copper.

Copies:

References: Grässe, *Trésor de Livres*, v. 500.

1507.

Title: *In hoc opere hæc continētur Geographia Cl. Ptholomæi a plurimis viris utriusque lingue doctiss. emēdata; & cū Archetypo græco ab ipsis collata. Schemata cū demonstrationibus suis correcta a Marco monacho Celestino Beneventano: & Joanne Cota Veronensi viris mathematicis consultissimis. Figura de projectione Sphæra in plano quæ in libro octavo desiderabatur ab ipsis ne dum instaurata sed fere ad inventa; ejus n. vestigia in nullo etiâ græco codice extabant. . . . Planisphærium Cl. Ptholomæi noviter recognitum & diligentiss. emendatum a Marco monacho Celestino Beneventano.*

Colophon: . . . *Noviter impressum per Bernardinū Venetū de Vitalibus. Expensis Evāgelista Tosino Brixiano Bibliopola Impante Julio II. Pont. Max. anno III. Pōtificatus sui. Die viii Septembr. M.D.VII.* (Copied from Brunet.)

Description: Large folio, 107 leaves, and one blank leaf beside the maps. The first capital of the title is a plain letter.

Pope Julius II. on the 28th July, 1506, gave to Tosinus, the publisher, the exclusive sale of his edition for six years, in consideration of the labor and expense which had been bestowed on it, including the describing and defining the position of the new-found lands.

Maps: There are the 27 maps used in the 1478 and 1490 editions, with six new ones added, — namely, one showing Poland, Hungary, Germany, Russia, and Lithuania; and five others, showing each, Spain, France, Livonia, Italy, and Judea, — making 33 maps in all. The new maps are not so well executed as the older ones.

Copies: (1) *Carter-Brown library*. (2) *Henry C. Murphy library* with Ruysch's map of the 1508 edition inserted.

References: *Carter-Brown Catalogue*, no. 31; Brunet, *Manuel, Supplément*, ii. 329, who calls a copy worth about 500 francs; *Walckenaer Catalogue*, no. 2243 (41 francs); Græsse, *Trésor de livres*, v. 500.

1508.

Title: *In hoc opere hæc continentur Geographiæ Cl. Ptolemæi a plurimis viris utriusque linguæ doctiss. emêdata: & cû archetypo græco ab ipsis collata. Schemata cû demonstrationibus suis correctæ a Marco Beneventano Monacho Celestino, & Ioanne Cotta Veronensi viris Mathematicis consultissimis. . . Nova orbis descriptio ac nova Oceani navigatio qua Lisbona ad Indicû pervenitur pelagus Marco Beneventano monacho celestino edita. Nova & Universalior Orbis cogniti tabula Iod. Ruysch Germano elaborata. . . Anno Virginei Partus, MDVIII. Rome.* (Copied from Stevens's *Nuggets*, and compared with the Astor copy.)

Description: Large folio, Roman letter, in double columns. The first capital of the title is an ornamented letter. There are after the title, 34 preliminary leaves with illuminated letters at the beginning of the inscription, and throughout the Register; 72 (with one blank) unnumbered leaves for text with ornamented initial letters, most of them illuminated; 14 leaves for Beneventanus's "Nova orbis descriptio", 22 leaves, "de tribus orbis partibus"; and next the 34 maps. The order of parts is sometimes changed in binding. A re-issue of the 1507 edition, with the description of Beneventanus, concerning "Terra Nova" and "Santa Cruz" added.

There had appeared two years before (1506) in Bergamo's *Novissime historiarum omnium reperçiones, noviter edite*, printed at Venice, a chapter, under date of 1492, entitled, "De quattuor maximis insulis in India extra orbem nuper inventis,"—a stout folio, priced by Quaritch at £12; but neither this, nor the *Cosmographiæ Introductio* (1507), nor other earlier mentions of the new-found islands, had been accompanied by maps of them.

Maps: Those of the 1507 edition, with an additional one of the New World, by Johan Ruysch, entitled, *Universalior Cogniti Orbis Tabula ex recentibus confecta observationibus*, and measuring $21\frac{1}{4} \times 16$ inches. This is the first engraved map showing any part of the recently discovered land in America. The text on the new lands is on p. 194, *et seq.* Ruysch is said to have sailed to Newfoundland in a ship from Bristol. There are two states of this American map,—one having the words "Plisacus sinus" on the eastern coast of Asia, which is made to be the same land discovered by Cabot (as in the Harvard College copy and in one of the Murphy copies), and the other state omits these words (as in the second of the Murphy copies). South America, called "Terra Sanctæ crucis, sive mundus novus," is represented as a distinct continent, but with undefined southern and western limits, with Cuba (half-drawn), and the other islands north of it. Greenland, which had been drawn in earlier maps as a peninsula of Europe, is here made the northeastern corner of Asia. The coast-line of Asia in these early maps is usually said to be drawn from Marco Polo, whence also Behaim in his globe got his contours; but this coast in Ruysch's map only faintly resembles Behaim's. Harvard College library and Mr. Samuel L. M. Barlow have this map, but not the book. HARRISSE, *Cabot*, p. 164, says this Barlow copy shows no marks of ever having been bound in a book; and that the copy of the 1507 edition in public library of Verona has this 1508 map, as does the Murphy copy, already mentioned.

Facsimiles or representations of the map have been issued in Santarcm's *Atlas composé de mappemondes depuis le Ve jusqu'au XVII^e siècle*; Leleuel's *Atlas*; Varnhagen's *Novos Estudos*, etc., Vienna 1874, 8 pp. (map in part); Humboldt's *Examen Critique*, v., and his essay on the oldest maps in Ghilany's *Ritter Behaim*; Henry Stevens, *Hist. and Geog. Notes*, pl. 2 (cf. an examination of Stevens's opinions in *Hist. Mag.*, Aug. 1869, p. 107); Ruge, *Geschichte des Zeitalters der Entdeckungen*; Köhl, *Discovery of Maine*, i. 156; *Narrative and Critical History of America*, vol. iii.; Charles P. Daly's *Early Hist. of Cartography*, p. 32; Hubert H. Bancroft's *Central America*, i.,—the last two on a small scale.

It is maintained that Ruysch may have used Columbus's map of 1498 and Cabot's missing charts. The latest trace of any of Sebastian Cabot's MS. maps is said to have been in 1575, when Juan de Ovando, the President of the Council of the Indies, died, and among his effects offered at public sale was an old illuminated map on parchment, "por Sebastian Gaboto," which Philip II. was at the time urged to take possession of. Cf. HARRISSE, *Jean et Sébastien Cabot*, pp. 150, 151. See Köhl's paper on *Lost Maps*, regarding the charts of Columbus and the missing chart of Bartholomew Columbus (1505) which recorded the discoveries in the Antilles, and the map which showed the discoveries of Vesputius. Of other manuscript maps, we can trace but few of an antecedent date, which could have been of service to Ruysch, and which have come down to us. The earliest of these is the well-known LaCosa map (1500), and the other is a "Carta da Navigare," which is attributed to Alberto Cantino, and is supposed to have been made in 1501-1503, to illustrate the third voyage of Columbus. The original is in the Biblioteca Estense at Modena, and a facsimile of it is announced for publication in Italy by Ongania in his *Raccolta di Mappamondi e carte nautiche del XIII. al XVI. secolo*, edited by Prof. Theobald Fischer of Kiel. The description given in HARRISSE (*Cabot*, pp. 143, 158) shows that it is also of interest in connection with the voyages of the Cortereals and Cabral; and was probably not the work of Cantino, but presented by him to his sovereign. HARRISSE mentions having received a facsimile of the map, the publication of which he defers till his work on the Cortereals, now in press, appears. The LaCosa map can best be studied in the full-size facsimile given in Jomard's *Monuments de la Géographie*. Various other reproductions are enumerated in the *Narrative and Critical Hist. of America*, iii. 8; the latest representation is in H. H. Bancroft's *Central America*, i. 115, accompanied with a confusion of description. There is a paper on LaCosa and his map in the *Bull. de la Soc. de Géog.* Mai, 1863 p. 298, by M. De la Roquette, who states that M. Walckenaer bought the original at a moderate cost of an ignorant dealer in second-hand objects and immediately brought it to the attention of Humboldt, who used it in his *Examen Critique*. After Walckenaer's death, 27 April, 1852, and at the public sale of his library in Paris in the spring of 1853, the Spanish government secured it for 4200 francs, over the competition of Jomard, who represented the Imperial Library of Paris. The latest examination of the LaCosa map is in HARRISSE's *Cabot*, pp. 52, 103, 156, where it is said to be preserved in the Naval Museum at Madrid, and to be numbered 553 in its catalogue.

The student must particularly regret the loss of the parchment mappemonde of Jaume Ferrer, which he laid before their Spanish majesties in 1495, as a basis of conference between these monarchs and the

Portuguese crown. Santarem, *Bull. de la Soc. de Géog.* (1847) vii. p. 321, mentions two maps, now lost to us, which may have preceded LaCosa's a little; one is named in a letter from Vera-Cruz (Brazil) dated March 1, 1500, which speaks of its showing South America as a group of four islands; and the other is one preserved at Lisbon, said to have been used by Vasco da Gama, in which South America is a single island. There is also a Portuguese chart preserved in the archives of the Bavarian army at Munich which may have given Ruysch some hints of the Cortereal discoveries in the north, and of Cabral's coursing of the Brazilian coast. Of the Spanish discoveries this chart yields nothing; and its date has been variously fixed from 1502 to 1504. Cf. Kohl's *Discovery of Maine*, p. 174; Peschel's *Geschichte des Zeitalters der Entdeckungen*, p. 331; Kunstmann, *Entdeckung Amerikas*, 69, and his *Atlas*, no. iii.; Lelewel, *Géog. du Moyen Age*, ii. 139. HARRISSE, (*Cabot*, p. 161), speaks of a facsimile of it by Otto Progel, being No. 1020 A of the Map Department of the Paris library, and says of Kunstmann's referring it to "Salvat de Pilestrina," that the true author may perhaps be "Salvat [ore] de Palestrina" of Majorca.

The chart of Pedro Keinel of a year or two later (*circa* 1504 or 1505) is preserved in the Royal library at Munich, and may also possibly have been known to Ruysch. Kunstmann, *Atlas*, gives a facsimile of it, which shows that it traced the Portuguese discoveries only. Kohl, *Discovery of Maine*, 177, gives the northern regions, and refers to J. A. Schmeller's "Über einige ältere handschriftliche Seekarten," in the *Abhandlungen der akad. der Wissenschaften*, iv. 247. Cf. HARRISSE, *Cabot*, pp. 141, 162.

Regarding the map of Bartholomew Columbus assigned to 1505, see Humboldt, *Examen Critique*, ii. 85; Kohl, *Die beiden ältesten General-Karten von America*, p. 24; Lelewel, *Géog. de Moyen Age*, ii. 140; Baldelli, *Storia del milione*, i. p. cliii.

When we consider the immense consumption of fish in Europe at this time, owing to the excessive number of fast days in the Romish calendar, we can understand the incentive which took large fleets of fishing vessels to distant seas. The Portuguese, Basques, Bretons, and Normans were often on the northern coasts, and we have evidence of their presence there as early as 1503-4. It would not be at all surprising if some proof of their antedating Columbus and the Cabots should yet appear, for with Greenland understood to be a mere prolongation of Europe, adjacent parts, southerly and westerly might easily have been visited with the same conception in mind. Navarrete, *Coleccion de los Viajes etc.*, iii. 41, 46, 176; Eusebius, *Chronicon*, Paris, 1512, p. 172 (cf. *Carter-Brown Catalogue*, i. p. 55); Wytfliet, *Histoire des Indes*, 131; Lescarbot, *Nouvelle France* (1618), p. 228; Biard, *Relation*, etc. (1616), ch. 1; Champlain (1632), p. 9; Charlevoix, *Nouv. France*, i. 4, 14; Estancelin, *Recherches sur les voyages et découvertes des navigateurs normands*; Kohl, *Discovery of Maine*, 188, 201, 203, 205, 280; Bancroft, *United States*, i. 16; Parkman, *Pioneers of France*, p. 171-2; *Mag. of Amer. Hist.*, April, 1882, on the early French voyages; *N. E. Hist. and General Register*, 1880, p. 229, on the Basques; Kunstmann, *Entdeckung Amerikas*, 69, 125; Peschel, *Geschichte des zeitalters*, etc., p. 332; Vitet, *Histoire de la Dieppe*, 51; HARRISSE, *Cabot*, p. 271.

That these early fishermen and navigators made charts is most probable, but few traces however of them have been preserved to us.

Among the copies, which M. Morin in 1852-53 made for the Canadian government from the French archives, is one of a map on birch bark, which he

describes as "Carte de l'embouchure du St. Laurent faite et dressée sur une écorce de bois de bouleau, envoyée du Canada par Jehan Denys, 1508." It is so entered in the *Catalogue of books on America*, p. 1614, issued by the Library of the Canadian Parliament at Toronto, in 1858. HARRISSE, *Cabot*, p. 250, says that no such map is to be found in the Department of War in Paris, where it is claimed to have been, and a tracing being supplied from Canada, he pronounced the map "absolument apocryphe," having the nomenclature of the last century.

Antedating Ruysch in its engraving is the well-known Waldseemüller map, which is said to have been cut in 1507, though not published till 1513,—and of this further mention will be made under the latter year. Its geography is however so different, that it is hardly possible that Ruysch could have known it, or the material upon which it is based.

Thomassy, *Les Papes géographes*, p. 29, has pointed out various circumstances attending the publication of this edition, among others the joint interest of representatives of various European nations. The three collaborators, Fabricius de Varano, Marc Beneventanus, and Jean Cotta were Italians. Tosinus, the publisher, was French, and Ruysch was German. The edition is known to have been 500 copies. The maps are colored in the Astor copy.

Copies: (1) *Carter-Brown library*. (2) *Library of Congress*. (3) *Astor library*. (4) *Henry C. Murphy library*. (5) *American Geographical Society*.

References: *Carter-Brown Catalogue*, i. no. 33; Brunet, *Manuel*, iv. 954; Panzer, *Annales Typog.*, viii. 248, 26; *Library of Congress Catalogue* (1867), p. 332; HARRISSE, *Bibl. Amer. Vetustissima*, no. 56, and *Notes on Columbus*, p. 170; Labanoff, *Catalogue des Cartes*, p. 6; Stevens, *Hist. and Geog. Notes*, 31, and *Nuggets* (1862), 2258 (£3 3s.); and *Bibl. Geographica*, no. 3058; *Walckenaer Catalogue*, 2244 (101 francs); Kohl, *Discovery of Maine*, 156; Humboldt, *Examen Critique*, ii. 5, 9; iv. 121; Lelewel, *Géographie du Moyen-âge*, ii. 149; Thomassy, *Les Papes Géographes et la Cartographie du Vatican*, p. 25; Kunstmann, *Entdeckung Amerikas*, p. 136; Van Praet, *Livres sur velin*, v. p. 4, with references; Hoffmann, *Bibliographisches Lexicon der gesammten Literatur der Griechen*, Leipzig, 1845, iii. 317; Raddelius, *Commentatio de Cl. Ptolemaeo Geog.*, 52; Fabricius, *Bibl. Graeca*, v. 275; Uricoechea, *Mapoteca Colombiana* (1860), no. 1; Grasse, *Trésor de livres*, v. 500; Henri HARRISSE, *Jean et Sébastien Cabot, leur origine et leurs voyages*, Paris, 1882, p. 164.

1511.

Title: *Claudii Ptolemaei Alexandrini Liber Geographiae cum tabulis et universali figura et cum additione locorum quae a recentioribus reperta sunt diligentis cura emendatus et impressus.*

Colophon: *Venetis per Iacobum Pentium de leucho Anno Domini M.D.XI. Die xx. Mensis Martii.* (Copied from Van Praet.)

Description: It is edited by Bernard Sylvanus of Eboli, who furnishes an epistle to André Mathieu Aquævivas, and gives annotations. The title is in red. There are 92 leaves folio, on the last 30 of which are the maps. The text is in two columns of 60 lines each.

Maps: There are, it is claimed, 30 wood cut maps; but the number is usually 28, namely, one of the world, ten of Europe, four of Africa, and twelve of Asia, together with a second map of the world. The names and legends are printed in red and blue,

— the earliest instance of registering type within a previously printed cut. They are also the earliest wood-cut maps which show the new discoveries. This art had, however, according to Stevens, been employed for the first time on an American subject in representing a group of Indians, which was probably printed at Augsburg or Nuremberg in 1497–1504; and is given in facsimile in Stevens's *Amer. Bibliographer*, Jan., 1854.

The second mappemonde is the one of interest for its American bearings, and there are reduced facsimiles of it in Lelewel's *Atlas* and in Daly's *Early Cartography*, p. 32. It is a heart-shaped projection, which brings a distorted representation of America on the left-hand edge. It is said to be the first instance of this kind of projection. "Terra sanctae crucis" is the name on South America. "Terra laboratoris" is an island off an imaginary continent, of which "Regalis domus" is a fragment. Thus is shown for the first time in any printed map the North American continent. It is also the earliest positive recognition of the Cortereal discoveries, though possibly Ruysch may have placed them on the Asian shore of his map.

The region about the St. Lawrence Gulf, which Cabot had explored, was visited in 1500–1 by Gaspar Cortereal, who never returned from his second voyage in 1501. The question of his land-fall is examined in Biddle's *Cabot*, ch. xi., and a particular statement is given in Kohl's *Discovery of Maine*, p. 164, etc., where the Portuguese chart of 1504 is held to show that Cortereal thought Newfoundland was the main. This chart is described by Peschel, sketched by Kohl, p. 174, and given in Kunstmann's *Atlas*. Cf. further Ramusio, iii. 417, Galvano, *Discoveries*, p. 95; Navarrete, *Coleccion*, iii. 44; Kunstmann, *Entdeckung Amerikas*, p. 57, etc.; Peschel, *Geschichte des Zeitalters der Entdeckungen*, 331; HARRISSE, *Cabot*, p. 256, who traces the outlines of the subject and furnishes the authorities; Hakluyt, *Western Planting*, 203, note; Major, *Prince Henry*, 374; Humboldt, *Examen Critique*, iv. 222, 224, 226; Conway Robinson, *Early Voyages*, ch. xi.; Wieser, *Magalhães-Strasse*, p. 25. Stevens, *Hist. and Geog. Notes*, p. 31, was in error in saying that Valentine Fernandez, in his *Marco Paulo*, 1502, made any reference to Cortereal. Cf. HARRISSE, *Additions*, p. 35.

The only contemporary account of these Cortereal voyages is contained in the *Paesi nuovamente ritrovati & novo modo da Alberico Vesputio Florëtino, intitulato*, published at Vicentia, 1507, and which is assigned sometimes to Alessandro Zorzi (Humboldt's *Examen Critique*) and sometimes to Montalboddo Fracanzano (Brunet, v. 1155, 1158; Sabin, *Dictionary*, xii. 50050; Grässe, *Tresor de livres*; HARRISSE, *Bibl. Amer. Vet.* no. 48, also, no. 109, discusses the authorship, and in *Additions*, no. 26, he makes some further qualifications; also see *Bulletin de la soc. de géog.*, Oct. 1857, p. 312). There are copies of this first edition in the Lenox and Carter-Brown (*Catalogue*, i. no. 30) libraries. The *Bibl. Grenvilliana*, ii. 764, shows a copy; and one in the Beckford sale (no. 186) at London, 1882, bound by Roger Payne, brought £270.

There are unsupported statements of another edition at Vicentia in 1508; but the second authentic edition was printed at Milan in 1508, published Nov. 17, and of this there are copies in the Cincinnati Public, Lenox, Carter-Brown, and Harvard College libraries. Cf. HARRISSE, *Bib. Amer. Vet.*, no. 55; Davezac, *Waldseemüller*, p. 80; Wieser, *Magalhães-Strasse*, pp. 15, 17. The Beckford copy brought £78, and Quarech offered a copy in 1883 for £45.

A German edition, printed at Hamburg in 1508, is also in the Cincinnati Public Library.

There were other editions as follows:—

1512. — Sabin says only one copy is known in the United States.

1517. — Carter-Brown and Lenox libraries. Leclerc, *Bibl. Amer.* (1878) prices a copy at 1000 francs. HARRISSE, no. 90. Brunet, v. 1158.

1519. — Sabin, xii., 50054; Leclerc, no. 2583, 500 francs. This was published at Milan. There is a copy in the Cincinnati Public Library. Another was sold in London, March, 1883, in the library of "an eminent admiral of Queen Elizabeth's time."

1521. — *Carter-Brown Catalogue*, i. no. 68, with note.

Also the following translations:—

1508. — *Neue unbekante landte*, etc., a German translation by Ruchamer, and said to be the first collection of voyages printed in German. There are copies in the Carter-Brown, and Lenox libraries, and in the Library of Congress. Sabin, xii. 50056; HARRISSE, no. 57.

1508. — *Nye unbekande Lande*, etc., — a translation into Platt-Deutsch from the German version, made by Henning Ghétel of Lubec. Sabin, xii. 50057; HARRISSE, *Additions*, no. 29; *Carter-Brown Catalogue*, i. no. 37. It cost about 1600 marks at the Sobolewski sale. Another copy was sold two years since to an American collector (Mr. Kalbfleisch) for 3000 marks. These two are the only ones known.

1508. — *Itinerariū Portugallēsiū e Lusitania in India*, etc. A Latin version by Archangelo Madriano of Milan. There are copies in the Lenox, Barlow, Brevoort, Carter-Brown and Harvard College libraries, and in the library of Congress. Cf. Sabin, *Dictionary*, xii. 50058; HARRISSE, no. 58; *Carter-Brown Catalogue*, no. 35. Quaritch held a copy in 1873 at £36. Sabin says Bolton Corney's copy sold for £137.

[1515]. — *Sensuyt le Nouveau mode*, etc. — a French version, in the Lenox library. Sabin, xii. no. 50059; HARRISSE, no. 83, and in *Additions*, no. 46, he notes other issues of probably the same date with variations. The Lenox library has also a copy of the same probable date which varies also. Sabin, xii. no. 50061.

1516. — *Le nouveau monde*, etc. In Carter-Brown and Lenox libraries. Sabin, xii. 50062.

[1521]. — *Sensuyt le nouveau mode*, etc. In Harvard College library. HARRISSE, no. 111; Sabin, xii. no. 50063.

[1528]. — *Sensuyt le nouveau monde*, etc. Sabin, xii. no. 50064.

The Cortereal discoveries are also indicated on a portolano, which is inscribed with the date (1511) now under consideration: *Vesconte de mariolo civis Janue composuy. In neapoly de anno 1511. Die xx. January*. This atlas belonged to the Duc d'Altamura, and was bought at public sale in Paris, May 7, 1870 (1500 francs) by R. de Heredia of Madrid. The extreme north is "Terra de los Ingres;" south of it is "Terra de Lavorador de rey de portugall;" and ten degrees further south is "Terra de corte reale de rey de portugall — terra de pescaria."

Various other portolanos of Vesconte de Maggiolo are noted by Desimoni ("Elenco di Carte ed Atlanti nautici di autore genovese" in *Giornale Ligustico*, 1875, with the numbers, 24, 25, 27–29, 33–35, 47), by Davezac (*Atlas hydrographique de 1511*, Paris, 1871, p. 8), and by Uzielli (*Elenco*, etc., nos. 159, 161, 166, 167, 181, 182, 191, 193); namely, one dated at Naples, 1512, in the library at Parma; one at Genoa, 1519, in the Royal library at Munich; another, Genoa, 1524, in the Ambrosian library at

Milan; a third of Genoa, 1525, preserved at Parma; another of 1527; a fourth of Genoa, 1535, in the Royal library at Turin; also one in the Cathedral library at Toledo; still another of Genoa, 1547, in the Paris library; and one of 1549 in the public library at Trévise. Cf. HARRISSE, *Cabot*, p. 166, and the Marquis Marcello Staglieno's letter to Desimoni, "Sopra Agostino Noli e Visconte Maggiolo," in *Giornale Ligustico*, Genoa, 1875, p. 71.

In regard to the Ptolemy of 1511, under consideration, "Sylvanus must have seen," says Mr. Brevoort, "a map of Columbus after his third voyage." His cartographical ideas, however, were too boldly conjectural to represent the prevalent geographical knowledge, and he was so far reactionary as to make Engroneland (Greenland) a peninsula of northwestern Europe, going back to the belief which Ruysch had discarded. Cf. the map in KUNSTMANN, *Entdeckung Amerikas*, no. 4, and in Lelewel, *Géog. du Moyen Age*.

Copies: (1) *Astor library*, lacks one map. (2) *Carter-Brown library*. (3) *The Henry C. Murphy library*. (4) *James Carson Brevoort*. (5) *S. L. M. Barlow*. (6) *Lenox library*. (7) *Charles H. Kalbfleisch*.

References: Van Praet, *Livres sur vélin*, v. p. 5; vi. 124, with references; *Astor Library Catalogue*, p. 1524; *Carter-Brown Catalogue*, no. 43; *Aspinwall Catalogue*; *Walckenaer Catalogue*, 2245 (24 francs); Brunet, *Manuel*, iv. 954; *Supplément*, ii. 330; Panzer, *Annales typog.*, viii. 405, 552; Leclerc, *Bibl. Amer.*, 471 (500 francs); HARRISSE, *Bibl. Amer. Vcl.*, no. 63, with references; Labanoff, *Catalogue des Cartes*, p. 6; Lelewel, *Géog. du Moyen Age*, ii. 151; URICOECHA, *Mapoteca Colombiana* (1860), no. 2; Quaritch, *Catalogue* (1880), p. 2084; Fabricius, *Bibliotheca Graeca*, v. 275; Napione, *Del Primo Scopritore*, 87; Zurla, *Sulle Antiche mappe*, cap. xxviii., in his *Di Marco Polo*, ii. 358; *Heber Catalogue*, vii. no. 5233; *Libri Catalogue* (1859), no. 2176; Græsse, *Trésor de livres*, v. 500; KUNSTMANN, *Die Entdeckung Amerikas*, 133; Kohl, *Die beiden ältesten general Karten von America*, 33; HARRASSOWITZ, *Rarissima Americana* (no. 91), 1882, no. 2 (220 marks), a copy before the printer's name was added to reverse of title, now the Kalbfleisch copy. Within a few years it has been priced at £20; £16 16s.; £12; £10; 300 marks; 160 marks; 250 francs.

1512.

Title: *Introductio in Claudii Ptholomei cosmographiã cū longitudinibus et latitudinibus regionum & civitatum celebriorum.* ☉ *Epitoma Europe Ence Silvij* ☉ *Situs & Distinctio parcium tocius Asia per brachia Tauri mōtiv ex Asia Pij secundi.* ☉ *Particularior Minoris asia descriptio ex eiusdem Pij arca.* ☉ *Sirie compendiosa descriptio: ex Isidoro* ☉ *Africe brevis descriptio: ex paulo orasio.* ☉ *Terre sancte et urbis Hierusalem apertior descriptio: fratris Anselmi ordinis Minorum de observantia.* . . .

Colophon: *Impressum cracovie ꝑ Florianū ungeriū. Anno dñi. M.D.XI.* (Copied from the *Carter-Brown Catalogue*.)

Description: In quarto, gothic letter. Title and dedication, 2 leaves. Text i-xl leaves. The editor's name is got from the dedication: "Reverendissimo in Christo patri et domino: Joanni dei gracia Episcopo Posnaniēsi Ioannes de Stobnicza S. d." On the same page is the following: "Et ne

solī Ptolomeo laborassem, curavi etiam notas facere quasdam partes terre ipsi ptolomeo alijsque veterioribus ignotas que Amerii vespucij aliorumque lustratione ad nostram noticiam puenere." Upon the reverse of folio v., in the chapter "De meridianis," occurs: "Similiter in occasu ultra africanã & europam magna pars terre quam ab Americo eius reptore Americam vocant vulgo autem novus mundus dicitur." Upon the reverse of folio vii. in the chapter "De partibus terre" is this: "Non solū aut pdicte tres ptes nunc sunt lacius lustrate, verum & alia quata pars ab Americo vesputio sagacis ingenii viro inventa est, quam ab ipso Americo eius inventore Amerigem q̄si a americi terram sive ameriã appellari volunt cuius latitudo est sub tota torrida zona," etc.

HUBERT H. BANCROFT, in his *Central America*, vol. i., mentions the map without having seen it, and errs in saying the name America does not occur in the text; and gives as peculiarities of the 1519 edition what was only copied from this of 1512.

The Carter-Brown copy has 43 leaves. That described by HARRISSE has 42 leaves. The Vienna copies are said to have 42 leaves. HARRASSOWITZ in 1876 (*Catalogue*, no. 29) advertised one, with 46 leaves, but without the map, for 500 marks. The same dealer's *Catalogue*, no. 61, book-number 56, gives a copy of 46 leaves, dated 1511, priced 400 marks,—possibly the same, differently described. These varieties would perhaps indicate three impressions or editions in 1512, unless one of them belongs to the previous year. The two copies in Vienna are said to be without date, and are thought to be of a different edition, or at least of another impression. One is in the Imperial library, and this has the maps; the other is in the City library. KUNSTMANN, *Die Entdeckung Amerikas*, p. 130. There is also a copy in the great library at Munich.

Maps: Two in number, one showing America and eastern Asia, the other the old world. They are wood-cuts, roughly executed, and extends from 40° south latitude to 70° north latitude. A triangular-shaped island, without name, cut by the 60° north latitude and in the longitude of Brazil, represents probably the Bacallaos and Terra Corterealis of other maps. A sweep of the ocean separates this from the main continent of North America, now for the first time represented as reaching so high as 50° north. It is about 15° broad (with the Floridian peninsula which juts from its southeast angle), and is connected by a narrow neck, 25° long, with South America. The western coasts of both North and South America are represented by straight lines, joined at different angles, which is probably a way of indicating, by the absence of sinuosities, all definite knowledge. The remarkable part of it is that the lines as angulated for the western coast of South America give a contour to that part of the continent very like what was in time discovered to be the truth.

A full-size facsimile of this map is given in the *Carter-Brown Catalogue*, and reductions made from this facsimile appear in the *Narrative and Critical History of America*, iii. p. 13, and in Judge DALY'S *Early Cartography*, p. 32. MÜLLER of Amsterdam also published (five copies only at twenty-five florins) a full-size facsimile, also following the Vienna copy.

Judge DALY, *Early Cartography*, p. 32, says that, as far as he can ascertain, STOBNICZA made the earliest attempt in this map to project the spherical surface of the earth upon a plane,—an exemplar of the mode now in use of representing the earth by

two planispheres, one giving the new, the other the old world. Mr. Brevoort qualifies this statement by calling it a first attempt to project a spherical surface on a plane in what might be called a partial and subspherical projection truncated at the poles.

As the Waldseemüller map of 1513 is known to have been engraved as early as 1507, and as there is a certain resemblance in Stobnicza's to it, it seems probable that the Polish geographer had had access to the earlier plate. Cf. Wieser, *Magalhães-Strasse*, p. 11, who speaks of a MS. copy of the western hemisphere of Stobnicza, made by Glareanus (who died in 1563), which is bound up with a copy of Waldseemüller's *Cosmographia Introductio*, belonging to the University library at Munich.

Copies: (1) *Carter-Brown library*. This copy lacks the two maps. It was sold by Otto Harrassowitz of Leipzig to Frederick Müller of Amsterdam in 1873, and thence passed to Mr. Brown, who perfected it with facsimiles of the two maps, taken from one of the Vienna copies. It is probable the copy mentioned by Frederick Müller in his *Books on America*, iii. p. 163, as sold for 240 florins, during the printing of his catalogue.

(2) *The Henry C. Murphy library*, likewise lacking the maps.

References: *Carter-Brown Catalogue*, no. 45; *Harrisse, Bibl. Amer. Vet.*, no. 69 and 95; *Panzer, Annales Typographici*, vi. p. 454; *Narrative and Critical Hist. of America*, iii. 13; *Kunstmann, Die Entdeckung Amerikas*, 130; *La Revue Germanique*, viii. 205.

1513.

Title: *Claudii Ptolemei . . . Geographiæ opus novissima traductione et Graecorum archetypis castigatissime pressum: cæteris ante lucubrationum multo præstantius. Pro Prima parte continens 1. Cl. Ptolemei Geographiam per octo libros partitam, ad antiquitatem suam, integre et sine ulla corruptione, etc. . . Pars Secunda moderniorum lustrationum Viginti tabulis, veluti supplementum quoddam antiquitatis obsoletæ, suo loco quæ vel abstrusa, vel erronea videbantur resolutissime pandit. . .*

Colophon: *Anno Christi Opt. Max. MDXIII. Marcii XII. Pressus hic Ptolemæus Argentina vigilantissima castigatione, industriæque Ioannis Schotti urbis indigenæ. Regnante Maximiliano Caesare semper Augusto.* (Copied from *Carter-Brown Catalogue*.)

Description: Large folio. Title, one leaf; another unnumbered; Text, 5-60 leaves; index, 15 unnumbered leaves, on the last page of which, "Ad lectorem;" 26 maps on double leaves; second title, 20 maps; "Tractatum," 14 leaves. The Barlow copy has this last section in 15 leaves, without title, but with a headline, "Locorum ac mirabilium mundi descriptio." Page 41 is numbered 34.

The text is Angelo's latin version, corrected by a Greek manuscript, by Matthew Ringman (Philesius). It is published by Jacques Essler and George Ubelin.

Maps: They are wood-cuts, sometimes colored, and forty-seven in number; of these, twenty-seven are old maps, and twenty new ones, the later by Waldseemüller, and showing the modern discoveries. All the old maps are double except the last, which is of a single page, and lettered "Duodecima — Asiæ Tabula," which Harrisse omits, counting only 26; and the 20th of the new maps is also a single-page one,

with shields on the right-hand and bottom margins. Passavant considers that the maps were printed in colors, saying "les armoirées qui entourent les cartes sont même imprimées avec leurs différents émaux."

Two of the newer maps show American discoveries.

1. "Orbis typus universalis iuxta hydrographorum traditionem." On the left is a part of South America, which has no designation; but on the coast is "Caput sanctæ crucis," and two islands, "Isabella" and "Spagnolla." Greenland is made the north-west part of Europe, and there is an undefined land, with no western limit, put in a place which seems to represent the Cabot and Cortereal discoveries. A reduced facsimile is given in Ruge's *Geschichte des Zeitalters der Entdeckungen* (1831).

2. "Tabula terre nove." North America is represented as in the Stobnicza map, except that the left-hand edge of the map takes the place of Stobnicza's straight western line. There is nothing of the region about Newfoundland; indeed, it does not extend far enough north to include it. Cuba is an island (Isabella), while some of the names belonging to that island are transferred to the main, indicating some confusion in the maker's mind. The northeast coast of South America is shown. Along the coasts are about 60 names, and this inscription, "Hec terra cum adjacentibus insulis inventa est per Columbū ianensem ex mandato Regis Castellæ."

This map is often called the "Admiral's Map." Some have held it to have been drawn by Columbus; others contend that it follows with alterations his map of 1498, now lost. In the "Ad Lectorem," of the supplement, the following account of Columbus's connection with the map is given: "Charta autē marina quam Hydrographiam vocant per Admiralem [believed to be Columbus] quondam sereniss. Portugalie [thought to be an error for Hispaniæ] regis Ferdinandi ceteros denique lustratores verissimis pagratiōibus lustrata, ministerio Renati, dum vixit, nunc pie mortui, Ducis illustriss. Lotharingie liberalius prelographationi tradita est." Cf. Santarem, in *Bull. de la Soc. de Géog.* 1837, vol. viii. p. 171, and in his *Recherches sur Americ Vespuce et ses voyages*, p. 165. The map has also been sometimes ascribed to Cabral and Vespucius. Notwithstanding this inscription, the map so nearly resembles the Stobnicza map (which separates America from Asia) that it may be a question if the draft as Columbus made it, embodying Asian connections, may not have been modified by the Pole's divination. The edge of the map cuts off all western extension, which might otherwise make the decision of this point certain.

Cf. on this map Dr. Franz Wieser's *Magalhães-Strasse*, p. 10.

Facsimiles of the map are given in Varnhagen's *Premier Voyage de Amerigo Vespucci*, and a deduction is given in Stevens's *Hist. and Geog. Notes*, pl. 2, where is also given (pl. 4) a facsimile of the map of 1515 in Gregor Reisch's *Margarita Philosophica*, which seems to be like the Waldseemüller map, except in a few names, and that the latter has a river mouth and deltas on the coast line, west of Cuba, which is supposed to represent the Ganges, and this river is left out by Reisch. The map in the *Margarita* of 1517 is quite different. Varnhagen, however, considers the bay and this three-mouthed river to be the Gulf of Mexico and the Mississippi River. Wieser in his *Magalhães-Strasse*, Innsbruck, 1831, p. 15, mentions a manuscript note-book of Schoner, the globe-maker, which has a sketch which resembles this Waldseemüller-Reisch type. It is preserved in the Hof-bibliothek at Vienna.

Of this popular encyclopædia by Reisch, it may be remarked that it had been issued in different editions since 1503, but with no mention of America in the text, and only now in the map; nor did the text of its geographical section recognize America till the edition of 1535. Cf. Davezac, *Waltzemüller*, 94; HARRISSE, *Bibl. Amer. Vet.*, no. 80-82; KUNSTMANN, *Entdeckung Amerikas*, 130; STEVENS, *Notes*, 52; KOHL, *Die beiden ältesten General-karten von America*, 33.

Waldseemüller, or Hylacomylus, as his name is given in Greek form, who had published the *Cosmographia Introductio* in 1507, wherein the name America was first applied, is said to have prepared this map in that same year, when it was engraved at the expense of Duke Rene II.; but the map remained unpublished till now (1513), probably on account of the duke's death. Lelewel, *ii.* 143, gives reasons for supposing it to have been on sale in 1507. The representation of it given in H. H. Bancroft's *Central America*, i. 130, leaves out the distinctive three mouths of the Ganges.

The views embodied in this map do not accord with the delineations of two other representations of about the same date.

1. Peter Martyr's map (7½×11 inches) of the Antilles, and adjacent coasts, given in his first decade, styled *Legatio Babylonica*, Seville, 1511. There are copies in the Carter-Brown, Lenox, Murphy, and Barlow libraries, and facsimiles and drawings of it are given in the *Carter-Brown Catalogue*; STEVENS, *Notes*, pl. 4; J. H. Lefroy, *Memorials of the Bermudas*, London, 1877; H. A. Schumacher, *Petrus Martyr*, New York, 1879, and in H. H. Bancroft's *Central America*, i. 127, where the coast line is made continuous in the northwest corner, while in the original it is not so. Quaritch, *Catalogue*, Feb., 1879, no 11626, pricing a copy with the map at £100, says that copies vary, the leaf with the map being an insertion. There seem to have been two issues, with the map on different folios. In one of them, a second edition, two leaves were reprinted to correct errors, and two new leaves inserted, beside a new title, and it is sometimes claimed that the map belongs to this issue only. Mr. Charles H. Kalbfleisch, of New York, tells me that he now owns this Quaritch copy, and that its title differs from the title as given by Sabin, and in the *Carter-Brown and Barlow Catalogues*. "This would make at least three variations in that edition." HARRISSE in his *Additions*, pp. viii. 54, mentions a copy examined at Madrid, which, while it lacks the map, has also the two extra leaves beyond the copy described in his *Bibl. Amer. Vet.*, no. 66. He also says he found a copy in the Colombina library at Seville, which had a MS. map on vellum, showing Hispaniola, and that it seemed to be the work of Columbus himself. *Additions*, p. 56; Brunet, *Manuel*, i. 292.

2. The Lenox globe, preserved in the Lenox library in New York, which has no trace of North America except in an island, which might stand for the Cortereal region. It is supposed to belong to about the years 1510-12, and to be the oldest globe showing any part of the New World. It is drawn in the *Mag. of Amer. Hist.*, Sept., 1879; in the *Encyc. Britannica*, x. 681, and in the *Narrative and Critical Hist. of America*, iii.

Copies: (1) *Astor Library*. (2) *Carter-Brown Library*. (3) *Library of Congress*. (4) *Henry C. Murphy Library*. (5) *Samuel L. M. Barlow*, — the copy seen by HARRISSE, whose description needs some slight corrections. It has two maps in duplicate. (6) *American Antiquarian Society*, — received from

Charles Tappan of Philadelphia in 1834, and bought by him in Paris in 1815. (7) *Charles H. Kalbfleisch*. Bouton of New York advertised a copy in 1876 for \$175.

References: *Carter-Brown Catalogue*, i. no. 47; HARRISSE, *Bibl. Amer. Vet.*, no. 74; Brunet, *Manuel*, iv. 955; *Supplément*, ii. 330; Graesse, *Trésor de Livres*, v. 501; Leclerc, *Bibliotheca Amer.*, no. 472, — 350 francs; Lelewel, *Géog. du Moyen âge*, ii. 141, 157; Humboldt, *Examen Critique*, iv. 109; Varnhagen, *Nouvelles recherches*, 56; Panzer, *Annales Typog.*, vi. 60, 283; *Library of Congress Catalogue*, (1867), p. 332; Davezac, *Martin Hylacomylus Waltzemüller, ses ouvrages et ses Collaborateurs* (1867), p. 141; STEVENS, *Hist. and Geog. Notes*, 13, 14, 51; *Walckenaer Catalogue*, no. 2246; Quaritch, *Catalogue* (1874), no. 9720; (1880), p. 1249; KOHL, *Die beiden ältesten general karten von America*, 33; R. H. Major, *Prince Henry*, 385; Fabricius, *Bibl. Græca*, v. 275; Raidelius, *Commentatio*, 56; Hoffmann, *Bibliog. Lexicon*, III. 317; Uricochea, *Mapoteca Colombiana*, no. 3; HARRASSOWITZ, no. 91, 3, (30 marks), now the Kalbfleisch copy; *Bulletin de la Soc. Géog.*, by Santarem, May, 1847, p. 318; Beaupré, *Recherches sur l'imprim. en Lorraine*, 83; Kunstmann, *Die Entdeckung Amerikas*, 130.

1514.

Title: *In hoc opere haec continentur: Nova translatio primi libri Geographiae Cl. Ptolomaei, quae quidem translatio verbum habet et verbo fideliter expressum, Jo. Wernero Nurenbergensi interprete . . .*

Colophon: *Explicit geographicus hic liber per ipsius Compositorem atque per Conradum Heinsfogel, — Maximil. imp. capellanum, et haud mediocrem mathematicum, fideliter emendatus recognitusque nec non a Johanne Stuchs Nurenberga impressus anno 1514 prid. Nonas Novembris.* (Copied from Panzer.)

Description: Folio. 68 unnumbered folios.

Maps: None.

Copies:

References: Panzer, *Annales Typog.*, vii. 454, no. 104; Graesse, *Trésor de livres*, v. 501.

1519.

Title: *Introductio in Ptolomei Cosmographiam cum longitudinibus & latitudinibus regionum & civitatum celeberrimum . . .*

Colophon: *Impressum Cracovia per Hieronymum Victorem Calcographum. Anno salutis humanae, Millesimo quingentesimo decimo nono. Decimo septimo Kalendas Maii.* (Copied from the *Carter-Brown Catalogue*.)

Description: Quarto. Title and one preliminary leaf; i-xliv. leaves. A second edition of the 1512 edition. Dedicated on reverse of title thus: "Reverendissimo in Christi patri & Domino Ioanni dei gracia Episcopo Posnaniensi Ioannes de Stobnicza Salutem dicit."

Concerning Vesputius it is said: "Et ne soli Ptolomeo laborassem, curavi etiam notas facere quasdam partes terræ ipsi Ptolomeo alijsque vetustioribus ignotas q̄ Americi Vesputii alior. q̄ lustratione ad nostrā noticiā p̄uenere." Again on folio 5, verso: "Similiter in occasu ultra Affricam & Europā magna p̄s terræ quam ab Americo creptorē america vocat, vulgo aut̄ novus mundus dicit." Once more on folio

7, verso: "Non solū aūt p̄dicte tres p̄tes nūc sunt latius iustrate, verū & alia quarta pars ab Americo Vesputio sagacis ingenii viro, inventa est, quā ab ip̄o Americo eius inventor amerigem quasi americi terram sive america appellari voluit, cui latitudo est sub tota torrida zona."

Maps: None.

Copies:

References: *Carter-Brown Catalogue*, no. 60, (not, however, in the library); *Harrisse, Bibl. Amer. Vet.*, no. 95, describing the British Museum copy; *Vossius, De Natura Artium*, lib. iii. 148.

1520.

Title: *Ptolemaeus auctus restitutus, emaculatus cum tabulis veteribus ac novis.*

Colophon: *Caroli V. Imperii Anno I. vim vi repellere licet* [figure of two dogs fighting] *Ioannes Scotus. Argentorati literis exceptis, 1520.* (Copied from *Harrisse's Additions*, no. 58.)

Description: Large folio. Title, within an ornamented border, with reverse blank. Preface by George Nebelin, with a table of books and chapters, one leaf. Text, 55 leaves, and colophon on reverse of the 55th. Then 47 maps, but without the title-list, text, and "Descriptio Mundi" of the 1513 edition.

Maps: Forty-seven in number, — the same as in the 1513 edition, and apparently from the same blocks, with the large map of the New World, inscribed "Hec terra &c.," known as the "Admiral's map."

Copies: (1) *Carter-Brown Library*; (2) *Henry C. Murphy Library*.

References: *Carter-Brown Catalogue*, nos. 588, 589; *Walckenaer Catalogue*, no. 2247, (45 francs); *Huth Catalogue*, iv. 1199; *Panzer, Annales typog.*, vi. 94, no. 572, with references; *Harrisse, Bibl. Amer. Vet.*, no. 104; *Additions*, no. 58, describing a copy in the Biblioteca Comunale di Verona; *Meusel, Annal. Typ.* v. part 2, p. 188; *Muller, Books on America* (1872), no. 2310; (1875), no. 3245; (1877), no. 2619; *Hoffmann, Bibliog. lexicon*, iii. 319; *Lelewel, Géog. du Moyen âge*, ii. p. 208, App.; *Davezac, Waltzemüller et ses ouvrages*, p. 156; *Quaritch, Catalogue* (1880), p. 2084 (L15 15^s).

1522.

Title: *Claudii Ptolomaei . . . opus Geographiae noviter castigatū & emaculatū additiōibus rarīs et inuisis, necnon cū tabularum in dorso rucunda explanatione . . . Hec bona mente Laurētius Phrisius artis Appollineae doctor & Mathematicarum artium Clientulus, in lucem iussit prodire. Agammemnonis puteoli plurimū delicati.*

Colophon: *Joannes Grieninger civis Argentoraten opera et expensis proprijs id opus insigne, aereis notulis exceptis, Laudabilī fine perfecit xii. die Marcij Anno M.D.XXII.* (Copied from the *Carter-Brown Catalogue*.)

Description: Large folio. Title in red and black; one unnumbered leaf of preface; folios, 3, 4; then unnumbered, 5, 6; 7-18; 22; two unnumbered; 22 repeated, but not the same text: 37-85; 89 instead of 86; 87-100. "Sphaera in plano" on verso of 99. "Cuplementum," etc., 1 leaf; blank page, but verso has "Finis viii. ultimi Libri." The maps.

Then the "Introductorium" of Frisius, 8 folios, the verso of the last blank.

The preface is by Thomas Aucuparius, in which he lauds Vespucius.

Maps: Forty-nine in number (*Panzer* gives 47), and more elaborate than those of the 1513 editions, being bordered with wood-cuts and vignettes. They closely resemble those of Waldseemüller, but are smaller, and have changes and additions. On the reverse of the folio numbered 100, Frisius names Martin Ilacomylus as the author of the maps. They have descriptions on the reverse, and in that on the third of the African series is the passage about Palestine which Servetus was charged with promulgating in the edition of 1535. The fifth of the Asian series is larger than the rest.

The maps showing parts of America are three in number.

1. "Orbis typus Universalis juxta hydrographorum traditionem exactissime, 1522. L. F." On the left edge, South America is seen projecting, and above it the islands Isabella and Spagnola; but there is no trace of North America. The word **America** appears on the South American Continent, — the first time the name occurs in any map of the Ptolemy series.

This name **America** had already appeared either in print or manuscript upon the following maps or globes:

a. *Varnhagen* in his paper on Schoner and *Apianus* refers to two globes, which are undated and in the collection of *Freiherr von Hauslab* at Vienna, — the one (printed) he puts in 1509, the other (manuscript) he assigns to about 1513. *Wieser* in his *Magalhães-Strasse*, p. 27, doubts these dates.

b. *Wieser* places with the printed Hauslab globe that of Schoner, which he earliest made, and which *Wieser* dates 1515, and calls the two the earliest printed cartographical records of the name. This 1515 globe will be again referred to later.

c. A manuscript draft representing the northern and southern hemispheres, in four broad gores, cut off at the equator, giving eight triangular sections with convex sides. This is the work of *Leonardo da Vinci*, and it is preserved in the Queen's collection at Windsor. This map is facsimiled and described in *Major's* paper in the *Archeologia*, vol. xl., and also considered in his life of *Prince Henry the Navigator*, p. 388. *Major* holds that it represents a stage of the discoveries not shown in any other map, but he wrote in ignorance at that time of the *Stobnicza* map. The *Da Vinci* map shows Newfoundland and Florida both as islands, and a passage to a western sea north of the coast line of South America. The northern continent of America has no existence except in the two islands already named.

The name, America, is on that part of South America which comes within the southern hemisphere. The map is supposed to have been drawn about 1512-14. A projection of the American part of it, in the modern hemispherical style, is given in *Dr. Franz Wieser's Magalhães-Strasse*, Innsbruck, 1881, who gives his reasons for thinking its date should be two years later, in 1515 or 1516. (*Ibid.*, pp. 27, 54, 58.)

d. In a *Catalogue de livres rares et précieux appartenant à M. H. Tross*, 1881, no. xiv., no. 4924, a copy of the *Cosmographie Introductio* is described and given the imprint, *Lugduni, 1514* (though the book is without date), and the title is accompanied by a folding sheet, showing twelve gores of a globe, a facsimile by *S. Pilinski* of the plate (14½ × 7½ inches),

which is said to be in the book. This gives South America as a comparatively narrow continental land, stretching from 12° N. to 41° S. latitude, in a general N.W. and S.E. direction, but with a sweep along the middle sections of the curve towards the east. This continental land bears the words, "America noviter reperta." North America has no western coast, the scale-bar cutting it off. The eastern coast-line runs north, from 18° to about 40° north, when it turns and extends easterly about 5°, then again runs north till the continent ceases at about 58°. Two islands which bear much of the same relation to each other as Cuba and Hispaniola (the latter marked COD), are too high for their true positions, being in 35°. The plate is inscribed: "Universalis cosmographie descriptio tam in solido quem [sic] plano." The *Catalogue* makes this claim: "C'est donc sur une carte essentiellement française, et gravée sur cuivre, que l'on trouve, six ans avant la publication de la carte gravée sur bois, ce nom d'America." It is not unlikely that the date of this edition of the *Cosmographia Introductio* (of which there are two copies in the British Museum) is put too early by a few years, and the map may possibly not belong to it. D'Avezac (*Martin Hylacomylus*, p. 123) thinks this edition was not earlier than 1517, because Robertet, to whom it is dedicated as Bishop of Alby, was not seated in that chair till Nov. 22, 1517. HARRISSE, *Bibl. Amer. Vet.*, no. 63, erred in dating it 1510, as he has recently averred. HARRISSE, *Cabot*, p. 182, ascribes it to Lonis Boulenger, and says it was engraved in 1514, but disputes that it was the earliest to have the name America, saying "Une semblable appellation se lit sur la projection, également imprimée en fuseaux, d'un globe terrestre à la date de 1509, qui fait partie de la collection de M. le général de Hauslab, à Vienne. Nous ne savons si c'est une impression française," and cites Davezac, *Allocution à la Société de géographie de Paris*, 20 Oct. 1871, p. 16. The copy in question having passed from Tross to Ellis & White, of London, is now in the library of Charles H. Kalbfleisch, of New York. Mr. F. S. Ellis, in a communication in the *London Athenæum*, July 16, 1881, claims that this engraved copper plate of 1514 shows Ludovicus Boulenger to have preceded by several years any other copper-plate engraving in France; though this is denied, the engraver of the plates in Breydenbach's *Saintes Peregrinations de Jerusalem*, Lyons, 1488, being referred to as the earliest in France to use metal.

e. The map engraved on wood, referred to under the previous head, is one by Apianus, which appeared (measuring $11\frac{1}{2} \times 14\frac{1}{2}$ inches) in Camer's edition of Solinus's *Polyhistor* in 1520, and of which facsimiles are given in the *Carter-Brown Catalogue*, i. no. 64 and in Santarem's *Atlas*, besides one on a much reduced scale in Daly's *Early Cartography*. There are copies of Camer's Solinus in the Carter-Brown, Lenox and Amer. Antiq. society's, and Boston Public libraries. Trübner priced a copy in 1876 at £15 15s.; and Weigel in 1877, *Catalogue*, no. 1534, 240 marks. Other recent prices are Leclerc, *Bibl. Amer.* (1881), no. 2686, 500 francs; and Ellis & White's *Catalogue* (1877), £25. The inscription on the map reads: "Tipus orbis universalis juxta Ptolomei Cosmographi traditionem et Americi Vesputii aliorque illustrationes a Petro Apiano Leysnico Elucbrat. An. Do. M.DXX." When the map was reissued in 1530 in the first complete edition of Peter Martyr's *Eight Decades*, this date was changed to "M.DXXX." *Carter-Brown Catalogue*, i. no. 94; HARRISSE, *Bibl. Amer. Vet.*, no. 154. Below the inscription is a heart-shaped projection of a map of the world, which by the extreme curvature of the lines distorts

the new world, which is figured on the extreme left-hand. The attenuated continent of South America is entirely surrounded by water, and on it is this legend: "Anno d. 1497 hac terra cum adiacentibus insulis inventa est par Columbum Ianuensem ex mandato regis castelle AMERICA provincia." North America, with a channel at the isthmus to the western ocean, is shaped much as in the previous map (*b.*), except that the western shore is defined, and is marked "Ulteriora terra incognita." An island, which might stand for the Cabot-Cortereal discovery is marked "Litt. incognitum." Cf. HARRISSE, *Bibl. Amer. Vet.*, no. 108; Kunstmann, *Entdeckung Amerikas*, 134; Kohl, *Die beiden ältesten Karten*, etc., 33; Uricoechea, *Mapoteca Colombiana*, no. 4. The same map also reappeared in the *De Orbis Situ* of Pomponius Mela, 1522, or at least it is found in Cranmer's copy of that book, now in the British Museum, and in the Huth copy, the editor of the *Huth Catalogue*, iv. 1372, erring however in calling it "the earliest known delineation of America with the name mentioned on it." Cf. H. Stevens, *Bibl. Hist.* no. 1272, who says: "This map was no doubt intended for both the Pomponius Mela and the Solinus. These books are uniform in size and after 1520 were issued together, and the map when found at all, is usually bound in the middle, between the two." This 1522 edition of Mela is the second of those having the letter of Vadianus. Leclerc, *Bibl. Amer.*, no. 459; *Carter-Brown Catalogue*, i. no. 590.

There are references to the earliest maps bearing the name of America in HARRISSE's *Notes on Columbus*, p. 172. Santarem, p. 159, gives twenty-five editions of Ptolemy between 1511 and 1584, which do not bear the name America on the map of the new world, and three editions where it does; namely, 1522, 1541 and 1552. Cf. his statement in the *Bulletin de la Soc. de Géog.*, 1837 (viii.), where he has traced down the use of the word *America* on the maps in his arguments against the claims for Vesputius put forth by Canovai.

Varnhagen privately printed at Vienna in 1872 (61 pp.—100 copies) the essay above referred to, concerning the early maps of America, which discusses the question of the first appearance of that name. It was entitled: *Jo. Schöner e P. Apianus (Benewitz) influencia de um e outro e de varios de seus contemporaneos na adopção do nome America: primeiros globos e primeiros mappasmundi com este nome.*

2. "Tabula terre nova." This shows the north-eastern parts of South America, a distorted Gulf of Mexico, with a bay full of islands at the northwest angle of the gulf, and a three-mouthed river adjacent. The coast line from Florida trends north up to 55°, and this North American continent is marked "Parias," which is cut off on the west by the edge of the map. "Isabella" and "Spagnoha," with some smaller islands, form the West Indian group. South America is marked "Terra Nova," with this legend, "Hec terra cum adiacentibus insulis inventa est p. Cristoferum Columbum ianuensem ex mandato Regis Castelle," and a picture representing cannibals feeding on human flesh. This map has an account of Columbus's discoveries in gothic letter, within a square inlaid in the map itself, and also on the reverse pages.

3. "Tab. nova norbegiæ et Gotticæ." This shows the Scandinavian peninsula, with Engronelant, a broad projection north of it, and connected with it. These three maps are repeated in the 1525 edition.

It will be observed that the maps are beginning now to show the results arising from Balboa's discovery of the Pacific in 1513. The severance of the North American continent from Asia was not yet clearly established. Some cartographers unreservedly made its coasts identical with those described by Marco Polo, and were to do so for some years to come, like the monk Franciscus (1526), a manuscript map in the British Museum (1530), the globe of Finæus (1531), the Nancy globe (1540-50), the Ptolemy of 1548, and even so late as 1560 in the map of the Italian Paulo de Furlani. Others expressed their doubt by making the western margin of their maps conceal the conditions; others made the Pacific shores uncertain, while they indicated them; while some, as Apianus had done, boldly drew in a western coast, just as Schoner had done in his 1515 globe. The continental extent of South America was universally recognized, and became AMERICA by virtue of its extensive insularity, while its connection with the northern continent — be that Asia or a new region — was still a disputed question, the theory of a western passage somewhere in the neighborhood of the Mexican gulf long lingering, even after a circumnavigation of its shore in 1518 had made it certain that no such passage existed.

The maps or globes with which the chart of Apianus would naturally be compared, because nearly contemporary with it, make evident all these conditions of geographical knowledge:

a. A Portuguese portolano, preserved in the Royal library at Munich, and reproduced in Kunstmann's *Atlas*, pl. iv., and in Stevens's *Notes*, pl. v. places Mahomedan flags on the coasts of Nicaragua and Venezuela, showing the maker's belief in the Asian identification of those regions. Kohl, *Discovery of Maine*, no. x., gives a sketch of part of it, and dates it 1520; but HARRISSE, *Cabot*, p. 167, puts it after Balboa's visit to Panama in 1516-17, and before 1520, because it shows no trace of Magellan's Straits. "Do Lavrador" is inscribed: "Terram istam portugalsis viderunt; a tamen non intraverunt." On "Bacal-nao," we read: "Terram istam gaspar corte Regalis portugalsis primo invenit," etc. There is a facsimile of the map in the National library at Paris.

b. Johann Schoner (or Schöner, for the custom varies, — b. 1477, d. 1547,) had printed under the patronage of Johann Sayer, in 1515, his *Luculentissima quadam Terra totius Descriptio* (copies are in the Harvard College and Carter-Brown libraries); but it is usually described as without a map. Quaritch has described (*Catalogue*, no. 12408, L25), as bound with other contemporary tracts, a copy which contains "a large wood-cut of his terrestrial globe." This engraving, however, as Mr. Quaritch informs me, is nothing but a picture of a mounted globe, showing the old world only. The Globe of 1515 is described with an engraving in Franz Wieser's *Magalhães-Strasse*, p. 19. It bears on an insular South America the word *America*, and varies little from his well-known later globe, except in the shape of the Antarctic Continent, which in 1515 he calls "Brasilie regio," and in 1520, "Brasilia inferior," and separates it from South America by the straits which Magellan afterward confirmed. It was eighteen years before Münster became the first of the Ptolomean editors in the editions of 1540 to recognize this southern passage, though it is alleged there was a chart of Martin Behaim which showed it, and had been seen by Magellan, and the information must have been current by which Da Vinci in 1512-15 was induced to delineate the broad expanse of

water which separated South America from the Antarctic land. Wieser, p. 49, 52; Ramusio, *Navigazioni et Viaggi*, i. 354; Feschel, *Gesch. des Zeitalters der Entdeckungen*, p. 616.

The history of the prevalence of a belief in a great south-polar continent is traced in Wieser's *Magalhães-Strasse*, p. 59, and he says the earliest map to give it the name of "Austral-land," or "Terra Australis," is the Orontius Finæus map of 1531, to be later described, and of this Wieser gives a projection of the ordinary polar-hemispheric kind. Cf. also Santarem, *Hist. de la Cartog.*, ii. 277, on the notions of a large Southern Continent which long prevailed.

Two copies of this 1515 globe have been, as Wieser says, long known, but not recognized. One is at Frankfort on the Maine, and Jomard in his *Monuments de la Géographie*, nos. 15 and 16, has given a drawing of it, simply calling it a "Globe terrestre de la 1^{er} moitié du xvi^e siècle." Cf. also Kohl, *Generalkarten von America*, p. 33, and his *Discovery of Maine*, p. 159, where it is erroneously said to bear the date of 1520; also *Encyc. Britannica*, x. 681, and Von Richthofen's *China*, p. 641, who places it later than Magellan's discovery. Cf. *Narrative and Critical Hist. of America*, iii., and *Royal Geog. Soc. Journal*, xviii. 45. The other is in the Militär-Bibliothek at Weimar, and is the one Humboldt in his *Examen Critique*, and in his introduction to Ghillany's *Ritter Behaim*, compares with the 1520 Globe of Schoner, and the Mappemonde of 1546 in Honter's *Rudimentorum Cosmographicarum libri tres* (1578), which is in fact essentially the same as Apianus's map (1520) in Camer's *Solinus*, and it had first appeared in the Cracow (1534) edition of Honter's book. Wieser's drawing of the Globe is based on Jomard's facsimile, rectified by the Weimar copy, and in his text he rehearses the evidence of its being made by Schoner to accompany his *Luculentissima Descriptio*.

In 1520 Schoner made another globe, which is preserved in the library at Nuremberg. This shows South America as a continent, disconnected from North America, which resembles closely the kind of delineation of which Stobnicza was the type, with the insular Corterealis as put down by the Polish geographer. His error was in making a western passage between the two Americas as had been done in the Lenox and Frankfort globes, and in those of the Hauslab collection already referred to, and in the maps of Da Vinci (1512-13), Apianus (1522), and Grynaeus (1532).

The earliest reproduction of the American parts of this globe known to me appeared in the *Fahresbericht der technischen Anstalten in Nürnberg für 1842*; and in the same year Dr. Ghillany, the same writer, issued his *Erdglobus von Behaim vom Jahre 1492 und der des Joh. Schoner von 1520*, with plates of the two globes. Humboldt examines it in his *Examen Critique*, ii. 28, and again in his appendix to Ghillany's *Ritter Behaim*, where the best drawing of it is given. There are other representations in Santarem's *Atlas*, Lelewel's *Géog. du Moyen-Âge*, Kohl's *Discovery of Maine*, Wieser's *Magalhães-Strasse*, pl. no. 1, Harper's Monthly, Feb., 1871, in connection with Maury's paper on the claims of Columbus, and in H. H. Bancroft's *Central America*, i. 137, 208, who falls into an error in saying that "this is the first drawing to represent the regions of the new world as distinct, although not distant, from the Asiatic coast." Mr. Bancroft's error in this respect as in others arises from his failure of access to some important books, which do not seem to be in the libraries of the Pacific coast. He acknowledges his unacquaintance with the Stobnicza map, which could

have set him right in this point, to say nothing of the map already mentioned in the *Tross Catalogue*, likewise unknown to him.

Kohl also gives the American parts in his *Geschichte des Entdeckungsreisen zur Magellan's-Strasse*, Berlin, 1877, p. 8.

Wieser, *Magalhães-Strasse* (p. 75) points out a globe of 1523 no longer known, and (p. 77) he recognizes a globe preserved in the Militär-Bibliothek at Weimar as another production of the same globe-maker, in elucidation of which Schoner in 1533 published his *Opusculum Geographicum*. In this work Schoner claimed that "Bachalaos, called from a new kind of fish there, had been discovered to be continuous with Upper India"; and he charges Vesputius with naming the new lands after himself. The southern hemisphere of this 1533 globe is given in Wieser's pl. v. It bears a strong resemblance to the Orontius Finæus map of 1531, to be mentioned under the head of the Ptolemy of 1540.

Schoner in 1523 printed his *De nuper . . . repertis insulis ac regionibus*, of which tract copies in the Hof-bibliothek at Vienna and in the British Museum are the only ones known. Varnhagen in 1872 used the Vienna copy in producing a facsimile "Réimpression fidèle d'une lettre de Jean Schöner écrite en 1523" (40 copies). Cf. Wieser, p. 116; HARRISSE, *Bibl. Amer. Vet., Additions*, p. 168, — there seeming to have been a second edition of Schoner's tract, of which Wieser (p. 118) gives the latin text.

c. Bordone's globe of 1521, of which a very small reduction is given in Lelewel's *Atlas*. Bordone in his maps employed the method "Sous la rose des vents," which was now being disused. He began his work in 1521, and, dying in 1531, the edition of 1534 is posthumous; but all the maps are considered to be of 1521 or earlier. See *post, sub anno 1540*.

Of this period (1519) is also the Atlas of Visconte Maggiolo, preserved in the Royal library of Munich, which is inscribed: "Vesconte de Maiollo civis Janue Composuy hanc cartam in Janua de anno Domini 1519." Cf. Kunstmann, *Die Entdeckung Americas*, 76, 135, 136; and *atlas*, pl. v.; Kohl, *Die beiden Generalkarten*, etc., 30, 146; Desimoni in *Giornale Ligustico*, p. 54.

There is noted in the Kohl collection (Depart. of State at Washington) a general map of America of 1522, which that writer ascribes to Th. Ancuparius.

Copies: (1) *Harvard College Library*, — has marginal notes in an old hand. (2) *The Henry C. Murphy Library*. (3) *Samuel L. M. Barlow*, — the copy seen by HARRISSE, who makes some minor errors in describing it. (4) *Carter-Brown library*.

References: *Carter-Brown Catalogue*, no. 72; HARRISSE, *Bibl. Amer. Vet.*, no. 117; *Additions*, p. 99; Leclerc, *Bibl. Americana* (1867), (560 francs), and (1878) no. 473 (300 francs); Panzer, *Annales typog.*, vi. 97, no. 611, with references; *Huth Catalogue*, iv. 1199; Brunet, *Supplément*, ii. 330; *Walckenaer Catalogue*, 2248 (17 francs); Graesse, *Trésor de livres*, v. 501; Fabricius, *Bibl. Græca*, v. 275; Radelius, *Commentatio*, etc., 58; Humboldt, *Examen Critique*, iv. 119; Napione, *Del Primo Scopritore*, 87; Lelewel, *Géog. du Moyen-âge*, ii. 208; Hoffmann, *Bibliog. Lexicon*, iii. 319; Götze, *Merkw. d. Dresden, Bibl.* i. 316.

1524.

An edition (Nuremberg) is cited by Santarem in *Bull. de la soc. de Géog.*, 1837 (viii.), p. 175.

1525.

Title: *Claudii Ptolemæi Geographicæ Enarrationis Libri Octo Bilibaldo Pirckeymhero Interprete Annotationes Ioannis De Regiomonte in errores commissos a Iacobo Angelo in translatione sua.*

Colophon on recto of the second no. 28: *Argentoragi [sic, should be Argentorati, i.e. Strasbourg] Johannes Grieningerus, communibus Johannis Koberger impensis excudebat, Anno a Christi Natiuitate M.D.XXV. Tertio Kal' Apriles.*

(Copied from a transcript of the title in the Prime copy, by favor of Dr. J. Hammond Trumbull, and compared with the Boston Public Library copy.)

Description: Title in a composite wood-cut border (same as 1522 edition); one page; dedication begins on verso of title, which is marked folio 1, and is continued on folio 2, and the enumeration covering text ends on recto of 82, its verso being blank, but 6, 33, 40, 47 are numbered by mistake respectively 12, 32, 41, 48; 69 has a sphere on the verso; 70 is unnumbered, verso blank; 71 is 72; Regiomontanus's annotations, 14 unnumbered leaves, with colophon on recto of the last, and verso blank; in a wood-cut border the following title: "Index Ptolemæi copiosus admodum, nec antea visus cum explanatione locor. quorū ad nostram ætatem, etc.," 34 leaves, being sig. a to f, in sixes, except the last which is in fours, and on the verso of the last leaf (f. 4): "Errata passim emendanda;" Tabulæ, — sig. 1–50, in twos.

Brunet says: "J. Huttichius passe pour avoir dirigé cette édition."

The maps do not have the ornamented scroll at the top belonging to those of the 1522 edition, or have a different one; and the text has fewer wood cuts.

Maps: Fifty in number, engraved on wood; with wood-cut figures and borders on the reverse. Those in the Astor copy are colored. They are sometimes made to be forty-nine in number, because one sheet has two on it; viz., no. 46, fourth page. They are numbered: 1–26 (10 of Europe, 4 of Africa, 12 of Asia); no. 27 is The ancient world; general Ptolemean maps; 28–50, but no. 35 is numbered 36 by error; nos. 46 and 47 are on one sheet; and no. 50 is numbered on the right.

The maps (with one exception, no. 49) are the same as in the 1522 edition, but vary a little in order, and no. 5 of the Asian series is (in the Boston Public Library copy at least) a smaller map than the corresponding one in the 1522 edition (Harvard College copy) and matches the rest.

The maps showing America are these:—

1. "Oceani occidentalis seu Terre Noue Tabula" (no. 28), which is the same as the "Tabula Ter. novæ" of the 1522 edition.

2. "Gronlandiæ et Russiæ" (no. 49) is not in the 1522 edition, and represents Gronlanda [sic] as a long, narrow peninsula, running S.W. from the extreme N.W. of Europe. It also shows on the western edge projecting land in the latitude of Ireland, and in the southwest corner a larger land, standing for South America. It follows the *mappe monde* in the 1513 edition, in these respects.

3. "Orbis. typus. universalis. Iuxta. Hydrographorum. Traditionem. Exactissime. Depicta. 1522. L. F." The 1522 map of Laurentius Frisius, the date unchanged, — being the last in the book.

Copies: (1) *Library of Congress*. (2) *Astor Library*. (3) *New York Historical Society*. (4) *Boston Public Library*, shelf-no. 2280.7. (5) *Baltimore Mercantile Library*, bound in the original oak boards.

(6) *The Henry C. Murphy Library.* (7) *Carter-Brown Library.* (8) *William C. Prime* (New York). (9) *Charles H. Kalbfleisch.*

Quaritch has of late years priced copies at £7 7s. and £10 10s. A copy was sold in New York, Nov. 21, 1876. Muller prices copies at 60 and 90 Dutch florins.

References: *Boston Public Library Catalogue, B. H. Supplement*, p. 512; *Carter-Brown Catalogue*, i. no. 87; *Harris, Bibl. Amer. Vet.*, no. 136, with some errors of description; *Walckenaer Catalogue*, no. 2249 (40 francs); *Brunet, Manuel*, iv. 955; *Supplément*, ii. 330; *Library of Congress Catalogue* (1871), p. 435; *Panzer, Annales typog.*, vi. 107, no. 698, with references; *Leclerc, Bibl. Amer.*, no. 474 (200 francs); *Muller, Books on America* (1875), no. 3246; (1877) no. 2620; *Puttick and Simpson's Catalogue* (1872), no. 701; *Quaritch, Catalogue* (1880), p. 1154 (£10 10s); *Grässe, Trésor de livres*, v. 501; *Hoffmann, Lexicon*, iii. 319; *Aspinwall Catalogue*, no. 6; *Fabricius, Bibl. Græca*, v. 276.

1527.

An edition (Paris) is cited by Santarem in *Bull. de la soc. de Géog.*, 1837 (viii.), p. 175.

1528.

An edition (Venice) is cited by Santarem in *Bull. de la soc. de Géog.*, 1837 (viii.), p. 175.

1532.

Title: *Ptolomei Tabula geographica cum Eandem annotationibus egregie illustratae.*

Colophon: *Argentorati apud Petrum Opilionem. M.D.XXXII.* (Copied from *Brunet, Supplément.*)

Description: Folio. Title; 110 leaves numbered; 8 maps; 2 unnumbered leaves.

Maps: Eight in number, each occupying two pages.

Copies:

References: *Brunet, Supplément*, ii. 330.

1533.

Title: *De geographia libri octo (græce), summa cum vigilantia excusi (dicat Erasmus Theobaldo Feticchio medico) Basilia (Hier. Frobenius et Nic. Episcopius) anno 1533.* (Copied from *Brunet*, — *Panzer* gives the Greek title.)

Description: The earliest edition in Greek. Quarto. Four folios; then 542 pages, and colophon.

Maps: None.

Copies: (1) *The Henry C. Murphy Library.*

References: *Walckenaer Catalogue*, no. 2230 (25 francs); *Brunet, Manuel*, iv. 950; *Sunderland Catalogue*, iv. 10350; *Panzer, Annales typog.*, vi. 293, no. 910, with references. *Fabricius, Bibl. Græca*, v. 276.

1535.

Title: *Claudii Ptolemaei Geographica enarrationis libri octo. Ex Bilibaldi Perckeymeri translatione, sed ad Græca & prisca exemplaria a Michaële Villanovano iam primum recogniti, Adjecta insuper ab eodem scholia quibus exoleta urbinum nomina ad nostri seculi morè exponuntur. Quinquaginta illa quoque cum ve-*

terum tum recentium tabula adnectuntur varique; incolentium ritus & mores explicantur. [Woodcut, with words: *Usus me genuit. Lugduni ex officina Melchioris et Gasparis Trechsel fratrum. M.D.XXXV.*

On the reverse of title: *Michael Villanovanus lectori. S. Amplissimo Domino Sebastiano episcopo Brixienzi, Bilibaldus Perckeymerus.* (Copied from the *Carter-Brown Catalogue.*)

Description: Folio. Title; one unnumbered leaf; folios 5–149; table 1 page, reverse blank; 50 maps; index, 38 leaves.

The part this book played in the condemnation of its editor, Servetus, has given it fame; and since many copies were burnt by order of Calvin, it has become rare. In connection with a map of the Holy land in the second series of maps was a statement that it was not such a fertile land as was generally believed, since modern travellers reported it barren. The careless virulence of his persecutor is evinced by the fact that this paragraph, so objectionable to him, was simply reproduced from the editions of 1522 and 1525. The next edition (1541), however, omitted it.

Maps: Fifty in number, wood-cuts, and generally in imitation of those in the Waldscemüller series. They are the 27 Ptolemean maps; the Admiral's map; and the 22 new maps, which include two maps of the world, the 17 modern maps of the 1513–20 editions, the map of Lorraine, and two new Asian maps. The map after No. 46 is a half sheet.

Those referring to America are:—

1. On obverse of folio 28: "Tabula terre nova." The same as in the 1522 and 1525 edition. Cf. *Harris, Bibl. Amer. Vet.* no. 210.

2. On folio 50: "Orbus typus universalis juxta hydrographorum traditionem exactissime depicta. 1522. L. F." The same as in the 1522 and 1525 edition.

To the account of Columbus in the earlier editions, Servetus adds a few words deprecating the putting the claims of Vesputius above those of Columbus.

3. "Tabula nova Norbergiae," etc. See the 1522 and 1525 editions.

Copies: (1) *Boston Public Library* (shelf-mark, 4140.4). (2) *Astor Library* (two copies). (3) *College of New Jersey*, — wants two leaves and five maps; but has the American map; is inscribed "Ex libris Jomard." (4) *Carter-Brown Library.* (5) *The Henry C. Murphy Library.* (6) *Samuel L. M. Barlow.*

References: *Boston Public Library Catalogue, Bates Hall Supplement*, p. 512; *Astor Library Catalogue*; *Carter-Brown Catalogue*, no. 115; *Harris, Bibl. Amer. Vet.*, no. 210, describing the British Museum copy; *Brunet, Manuel*, iv. 955; *Supplément*, ii. 330; *Chatsworth Catalogue*, iii. 268; *LeClerc, Bibl. Americana*, no. 475 (200 francs); *Tross, Catalogue* (1875), (150 francs); *Panzer, Annales typog.*, vii. 365, no. 776, with references; *Quaritch, Catalogue* (1880), no. 2084 (£12 12s); *Walckenaer Catalogue*, no. 2250 (80 francs); *Fabricius, Bibl. Græca*, v. 276; *Hoffmann, Lexicon*, iii. 319; *Labanoff Catalogue*, no. 23; *Muller, Catalogue* (1875), no. 3248; *Grässe, Trésor de livres*, v. 501, with references; *Raideluis, Commentatio de Cl. Ptol. geog.*, 61; *Humboldt, Examen Critique*, iv. 137; *Willis, Servetus and Calvin*, ch. viii.; *Tollin, "Michel Servet als geograph," in Zeitschrift der Gesellschaft für Erdkunde*, 1875, p. 182.

Michael de la Roche, *New memoirs of literature*, London, 1725, vol. i., containing, p. 26, "An account of a very rare edition of Ptolemy's geography, pub-

lished by Michael Servetus in the year 1535," written (see p. 410) by Le Courayer.

* * * HARRISSE, *Bibl. Amer. Vet.*, p. 344, enumerates various works on Servetus and the causes of his martyrdom.

1538.

An edition is cited by Santarem in *Bull. de la soc. de Géog.*, 1837 (viii.), p. 175, but I suppose it to be the astronomical, not the geographical, treatise.

1540.

Title: *Claudii Ptolemæi Alexandrini libri viii. de Geographia e Graeco demum deducti. . . Joannes Novio magi [J. Bronchorst] opera. Coloniae, excudebat J. Ruremondanus, Anno 1540, mense Martio.*

Description: Latin version of the original Greek, without modern additions. Octavo. Eight preliminary leaves; 388 pp., and 49 leaves for index.

Maps: none.

References: *Walckenaer Catalogue*, no. 2252; Græsse, *Trésor de livres*, v. 501; Brunet, *Manuel*, iv. 955.

1540.

Title: *Geographia universalis, vetus, et nova, complectens Claudii Ptolemæi Alexandrini enarrationes Libros VIII. Quorum primus nova translatione Pirckheimheri & accessione commentarioli illustrior quam hactenus fuerit, redditus est. . . Adiectæ sunt huic posteriori editioni novæ quadam tabula, quæ hactenus apud nullam. Ptolemaicam impressuram visæ sunt. Basileæ, apud Henricum Petrum. Mense Martio Anno M.D.XL.* (Copied from the *Carter-Brown Catalogue*.)

Description: Folio. Title, and 9 preliminary leaves, including six of index; 17 unnumbered leaves; one blank leaf; text, 1-154 pages; 48 maps; appendix, 157-195 pp. The device of H. Petrus on the reverse of last leaf. The maps sometimes follow the appendix. Edited by Sebastian Münster.

Maps: Forty-eight wood-cut maps as follows: Mappemonde; nos. 2-28, the ancient maps, redesigned by Münster; twenty modern maps, "novæ Tabulæ," designed by Münster, and numbered i-xx.

Münster was born in 1489, and died of the plague in 1552. In 1532 he had already contributed a map of the world, and had described it in the *Novus Orbis*, which was published at Basle in 1532, and is usually ascribed to Grynaeus, because his name is signed to the preface. Münster's map, however, is not often found in the book. The *Bibliotheca Grenvilliana*, even, says: "No map has ever been seen in this edition." Muller says that of twenty copies of the *Novus Orbis*, which he had examined, only one had the map. The copies in the Harvard College [1354.28] and Boston Public [4160.8] libraries lack the map. Those in the Carter-Brown (*Catalogue*, no. 101) and Barlow (HARRISSE, *Bibl. Amer. Vet.*, no. 171) libraries have the map. There are other copies of the book in the Lenox and Astor libraries. Rich, in 1832, held a copy with the map at £1 1s.; Quaritch and Leclerc (*Bibl. Amer.*, no. 411) have of late years priced copies with the map at £5, £3 10s., and 125 francs. Muller, *Books on America* (1872), 1845; (1875); (1877) no. 1301, has held copies with the map at 70, 75, 58 florins. Muller has also issued a facsimile of the 1532 map (10 copies, at 15 florins); and reproductions of it are given in Stevens, *Notes*, pl. iv. no. 4, and *Narrative*

and *Critical Hist. of America*, iii. See further on the book, Ternaux, *Bibl. Américaine*, no. 38; and Sabin, *Dictionary*, ix. 34, 100. The map, however, was used in the 1537 and 1555 editions of the *Novus Orbis* with only in some copies a change in the size of the type used for the names.

Münster's 1532 map closely resembles the Schoner and Frankfort globes, in the shape of North America and in the placing of Corterealis, as well as the severance of South America by a strait. This northern land is called "Terre de Cuba." The southern continent is drawn broad in the northerly part, but suddenly contracts, making the lower portion long and narrow, and it bears these words: "Parias," "Canibali," "America," "Terra Nova," "Prisilia." In some parts of the map the designation of countries is printed from type inserted in the block, and the size of these type varies in some copies.

This 1532 map, being so much behind the current knowledge of America, was not altogether creditable to Münster; and in 1540, he undertook the editing of the edition of Ptolemy now under consideration, aiming to correct the erroneous views of Waldseemüller, which had largely prevailed since the edition of 1513.

In this 1540 edition of Ptolemy he placed the following new maps, which are of interest in the history of American Cartography.

1. "Typus universalis." An elliptical map, with America on the left, except that the western part of Mexico, called "Temistitan" is carried to the Asia side of the map. In the north a narrow neck, extending west, widens into "Islandia," with "Thyle," an island south of it; and still further westward it becomes "Terra nova sine de Bacalhos." South of this is a strait, marked "per hoc fretū iter patet ad Molucas." The northern boundary of the western end of this strait is India Superior. South of it, opposite Bacalhos, is a triangular land, without name, but with an off-lying island, — "Corterael." Its western shore is washed by a Verrazano Sea, which nearly severs it from "Terra Florida." South America is so vaguely drawn on its western bounds that its connection with North America is uncertain. It is called "America, seu insula Brasillii." Magellan's Straits separates it from the antarctic land; and these straits are for the first time shown in any Ptolemean map.

We have knowledge that in 1517 Magellan and his friend, the astronomer, Faleiro, made "a globe on which they depicted America and the great oceans between America and the old world," — a production no longer known. The map of his straits, which a few years later he made when he sailed through them, is likewise unknown to modern inquirers. (Dr. Kohl's Paper on *Lost Maps*.) The delineation of the straits in 1515 has already been mentioned under the head of the Ptolemy of 1522. The *Magellan's-Strasse* of Kohl (Berlin, 1877) and the *Magalhães-Strasse* of Wieser (Innsbruck, 1881) are both thorough treatises on the history of the discovery and exploration of the Straits.

2. "Novæ insulae xxvi nova tabula." This is no. 45 of the whole, or no. 17 of the twenty new maps, showing both Americas. Kohl in delineating it (*Discovery of Maine*, pl. xv^a), dates it by error, 1530; and Hubert H. Bancroft, *History of the Pacific States*, 1, copies the error. A similar gulf, from the northwest, projects down into North America as in the other map. On South America is this legend: "Insula Atlântica quam vocant Brasillii & Americam."

Cf. Murphy's *Verrazzano*, p. 104. There are other

drafts of the map in the *Narrative and Critical Hist. of America*, iii., and in H. H. Bancroft's *Central America*, i. 147.

This map, *Novus Orbis*, beside appearing in several later editions of Ptolemy, also served Münster in more than one edition of his own *Cosmographia* (1544, 1555, etc.), and Kohl, *Discovery of Maine*, p. 296, states that he found the same plate used here and there for more than fifty years. It appears in the Harvard College copy of the edition of 1554 of Münster's *Cosmographia Universalis Lib. VI.*, being no. 14 of the series, with a Latin title on the recto of the first half of the folded sheet, this caption being on the map itself,—“*Tabula nouarum Insularum [sic], quas diuersis respectibus Occidentales & Indianas uocant.*” On the South American Continent, the words “*Die Nüw Welt*” appear in large type,—the only German on the map, an indication of its use in the editions in that language. Harvard College library has also, bound separately, the same map, with no variations, except that the caption over the top of the map is in German, and so is the inscription on the outside, as folded. It is not numbered, and may have been issued separately as well as in German editions of the *Cosmographia*.

It is of interest now to inquire what explorations had been followed, and what maps had been produced since the edition of 1522, which could have been of assistance to Münster in drafting these new theories of the general contour of the American continent.

The distinctive feature of Münster's map—the sea which nearly severs North America—is traced to the explorations of Giovanni de Verrazzano in 1524. Into the questions in dispute, which were raised by Buckingham Smith, and have been pressed by Henry C. Murphy against the general credence imposed in these explorations, it is not necessary to enter here. The belief in the story first found public cartographical expression in the map under consideration; and Münster may possibly have used Verrazzano's charts, which are now lost. Ortelius in his catalogue of maps does not name them. It is supposed that Lok used them in the map known by his name, which is given in Hakluyt's *Divers Voyages* of 1582, where the western sea is called after Verrazzano, and Lok's map is reproduced in the *Carter-Brown Catalogue*, i. 288, in the Hakluyt's Society's reprint of the *Divers Voyages*, in Kohl's *Discovery of Maine*, p. 290, and in the *Narrative and Critical Hist. of America*, iii. Verrazzano's name is dropped from all the maps after 1583.

The validity of the claims for Giovanni de Verrazzano largely rests, however, on a planisphere of about 1529, made by Hieronimus de Verrazzano, measuring 51 × 102 inches, which was discovered in the Collegio Romano de Propaganda Fide in the Museo Borgiano, at Rome. It is not certain that the map is an original, and it may be a copy. It was mentioned by Von Murr in his *Behaim*, Gotha, 1801, p. 28, referring to a letter of Cardinal Borgia of Jan. 31, 1795, regarding it. It was again mentioned in Millin's *Magazin Encyclopédique*, vol. lxviii (1807). General attention was first directed to it in 1852 in Thomassy's *Les Papes Géographes*, in the *Nouvelles Annales des Voyages*, Paris, iii. (1853) p. 269, and printed separately the same year, pp. 112. Two imperfect photographs of the map were procured for the American Geographical Society in 1871, and it is described by Mr. Brevoort in their *Journal*, 1873. Buckingham Smith had translated the French account of it in the *Historical Magazine*, October, 1866. Reductions of it are given in C. P. Daly's *Early Car-*

tography, much reduced, p. 34; in the opposing monographs of Brevoort, *Verrazzano the Navigator* (1874), and Murphy, *The Voyage of Verrazzano* (1875), both describing it. Brevoort also gives an enlarged section of it, and for comparison the same coast from the Spanish Mappamundi of 1527, following Kohl's facsimile in his *Karten von Amerika*. Brevoort is also of the opinion that Hier. Verrazano got his western sea from Oviedo's *Somario* of 1526. See Brevoort's *Verrazano*, p. 5. Dr. DeCosta in the *Mag. of Amer. Hist.*, Aug. 1878, gives a reduction from Mr. Murphy's engraving, and an enlarged section in which he inserted the names, which were obscure in the photograph from which Mr. Murphy worked. Dr. DeCosta repeats his various maps and sums up the subject in his *Verrazano the Explorer*, New York, 1881. He has since added to this edition a revision of the Verrazano map, based upon Desimoni's criticism of his reading of the names on the coast. Cf. also HARRISSE, *Cabot*, p. 180.

The globe of Euphrosynus Ulpius, 1542, found by Buckingham Smith in Spain, and now in the cabinet of the New York Historical Society, shows Verrazzano's discoveries. See HARRISSE, no. 291; and Charles Deane's notes in Hakluyt's *Western Planting*, p. 218.

The same midway narrowing of North America by a western sea was drawn in manuscript, before Münster engraved it, in the great portolano of Baptista Agnese in 1536, and Mr. Brovoort thinks Münster must have copied Agnese. HARRISSE, *Cabot*, p. 188, gives a considerable essay on the cartographical works of Agnese, who lived at Venice from 1536 to 1564, and from whom we have various portolanos, signed and dated in the following years: 1536, 1543, 1544, 1545, 1553-1555, 1559, and 1564,—of which mention will be made successively further on. Of that of 1536, which now concerns us, there are said to be copies at Munich and at Dresden. Another copy in the British Museum (MSS. no. 19927) is marked *Baptista agnesinus ianuensis, fecit venetijs, 1536, die 13 October*; that in the Bodleian is dated *1536 die Martii*. It is an atlas of a dozen leaves. A similar configuration belongs to an atlas preserved at Turin (about 1530-1540), of which Wuttke gives a sketch in plate vii. of the *Jahresbericht des Vereins für Erdkunde in Dresden*, 1870.

The Agnese map of 1536 is included in the Kohl Collection of the State Department, and is sketched by Kohl (*Discovery of Maine*, 292), who gives on a single plate (p. 296), four other maps, indicating the same features of Verrazzano's influence. One of these is the *Novus Orbis* of 1540 by Münster (which Kohl misdates). Another is a map ascribed to Ruscelli (1544) to be described later. A third is an anonymous portolano (1536) preserved in the Bodleian, which represents a narrow continent running north-east and southwest, with a northerly passage, perhaps corresponding to the St. Lawrence River. The last is a map by the Portuguese, Diego Homem, preserved in the British Museum, and probably of the same year with the *Novus Orbis* (1540), with a similar northern passage.

Mr. Murphy in his *Voyage of Verrazzano*, p. 106, denies that these four maps show any dependence upon the chart of Verrazzano. De Costa, in his *Verrazano the Explorer*, argues for the decided influence of that map on later cartography. The latest word upon the subject is said by Mr. J. Carson Brevoort, in the *Mag. of Amer. Hist.*, Feb. 1882, p. 123, and July, 1882, p. 481.

It is claimed by Mr. Murphy and the sceptics that the so-called letter of Verrazzano, describing his

voyage, was really compiled upon the reports of the voyage of the Portuguese Estevan Gomez, who, as one of the results of the congress of Badajos, was sent in 1525 to explore the coast of what is now the United States. There are two maps, thought by some to have grown out of the Gomez voyage, though that of 1527 has no mention of Gomez, and that of 1529 has a legend along the New England coast, depreciating the importance of the discoveries of Gomez.

The first is an anonymous parchment chart (1527), preserved in the Grand Ducal library at Weimar, which is described and in part depicted by Kohl in his *Die beiden ältesten Generalkarten von Amerika*, Weimar, 1860; and this same commentator gives a smaller section in his *Discovery of Maine*. Cf. Humboldt, *Examen Critique*, ii. 184, and his preface to Ghillany's *Ritter Behaim*; HARRISSE, *Cabot*, pp. 69, 172; Murr, *Memorabilia bibliothecarum*, Nuremberg, 1786, ii. p. 97; Lindenau, *Correspondance de Zach*, Oct. 1810; Lelewel, *Géog. du Moyen Age*, ii. 110.

The map has sometimes been attributed to Ferdinand Columbus; but HARRISSE dismisses his claim, as well as those of Alonso de Santa Cruz, Chaves, Ribero, and Simon de Alcazaba de Sotomayor; and after pointing out the resemblance in the nomenclature of the map to that of Pedro Reinel, he inclines to attribute it to Nuño Garcia de Torenó, the maker of the Venice map of 1534, later to be mentioned.

The map has this title: *Carta universal, en que se contiene todo lo que del Mundo se a descubierto hasta aora hizola un cosmographo de Su Magestad Anno M.D.XXVII en Sevilla*.

Of the same date (1527) is the map, which Desimoni cites in the *Giornale Ligustico*, p. 62, as by the Vesconte de Maiollo, preserved in the Biblioteca Ambrosiana, at Milan, though Desimoni quotes the inscription thus: "Vesconte de maiollo composny hanc cartam in Janua de Anno Domini 1527, die xx decembris;" and says that it bears on the South American continent the following legend: "Terra nova descuberta per Christoforo Colombo Januensem [sic]." The date, 1527, should be 1527, and the inscription as HARRISSE (*Cabot*, p. 177) gives it, is "Vesconte de Maiollo composny hanc cartam in Janua anno dny. 1527. die xx decembris." Desimoni has since reproduced it, correcting the date, in his *Allo studio secondo intorno a Giovanni Verrazano*, third appendix, published at Genoa in 1882. Dr. De Costa showed a large photograph of it at a meeting of the N. Y. Historical Society, May, 1883, pointing out that the name "Francesca" on it gives Verrazano, rather than Cartier the credit of bestowing that appellation on the northern parts of America. *Mag. of Amer. Hist.*, June, 1883, p. 477. For Maiollo's cartographical standing, see Heinrich Wuttke's *Geschichte des Vereins für Erdkunde in Dresden*, 1870, p. 61.

The second of the Gomez charts is Diego Ribero's parchment map of 1529, copies of which are preserved at Weimar and Rome. Kohl gives a facsimile of the American parts in his *General-Karten*, and a smaller reduction in his *Discovery of Maine*, p. 229; and De Costa sketches the eastern seaboard of North America in his *Verrazano the Explorer*. A reduction is also to be found in H. H. Bancroft's *Central America*, i. 146, and in Lelewel's *Géog. du Moyen Age*, and Murphy, p. 129, gives it with English names. The earliest reproduction is given in a memoir (describing a copy then at Jena in the library of Büttner) by M. C. Sprengel, in 1795, appended to a German translation of Muñoz, and printed separately as *Über Ribero's älteste Welt-karte*. There is a copy in Harvard College Library. The map is also described in Humboldt's *Examen critique*, iii. 184.

Thomassy, *Les Papes Géographes*, p. 118, in referring to the original, says there are two other copies of it, beside the one in the Propagande, and he cites from the *Gazetta letteraria universale* of May, 1796, p. 468, a letter from Rome respecting Sprengel's account. Santarem (*Bull. de la Soc. de Géog.*, 1847, vii. p. 310) also mentions this map as being in the Propagande, and as having belonged to Cardinal Borgia. Cf. also Santarem's *Recherches sur la découverte des pays au-delà du cap Bojador*, pp. xxiii and 125; Murr, *Hist. diplom. de Behaim*, p. 26; Lelewel, *Géog. du Moyen Age*, ii. 166, and pl. 41.

This Ribero map bears the following inscription: *Carta universal en que se contiene todo lo que del mundo. Se ha descubierto fasta agora: Hizola Diego Ribero Cosmographo de Su magestad: Año de 1529. La Qual Se divide en dos partes conforme a la capitulacion que hizieron los catholicos Reyes de españa, y El Rey don Juan de portugal en la Villa [citta] de Torde-sillas: Año de 1494.*

The Propagande copy has the words "en Sevilla," after the date. Ribero was a Portuguese, but in the service of Spain, having been made royal cosmographer, June 10, 1523. He died in 1533. HARRISSE describes the Weimar copy as having on "Tiera del Labrador" the words: "Esta tierra descubrieron los Ingleses no ay en ella cosa de prouecho." Thomassy says the Vatican (Propagande) copy only indicates the discovery of Labrador "by the English of Bristol."

There is a certain resemblance to both these Weimar charts in what is called the Portolano of Philip II., given to him by Charles V., and which is described by Malte-Brun in the *Bull. de la Soc. de Géog.*, 1876, p. 625. Its precise epoch can best be fixed by the discoveries in Florida, Peru, California, and the voyage of Magellan (1519-21), which it chronicles, and the absence of any positive configuration of the coast of Chili, which was tracked in 1536. Making allowance for the time necessary for the spreading of intelligence in those days, we may put the chart not earlier than 1535, nor later than 1540. An edition of a hundred copies of a photographic reproduction of it, with an introduction by M. Frédéric Spitzer, was issued in Paris about 1875.

A map of the same type is that given in facsimile in the *Cartas de Indias*, published by the Spanish government in 1877, and entitled "Carta de las Antillas, seno Mejicano y costas de tierra firme, y de la America setentrional."

Thomassy (*Les Papes géographes*, p. 133) cites a MS. parchment atlas preserved in the Propagande, entitled *Orbis maritimus sæculi xv* (i.e. xvi), which has a map of the Pacific showing America and the Moluccas, seemingly of a date not long after the Spaniards had reached that sea; and after the discoveries of Gomez, which are noted, and all the eastern coasts of America are given except the extreme easterly parts of South America, cut off by the edge of the sheet, which is, however, given in the fifth or the next following map of the series.

Henry Stevens, who contends that Ribero's map was a partisan production and did not grow out of the Gomez voyage, says that a wood-cut map, measuring 21 × 17 inches, of which the only copy is in the Lenox Library (sold to Mr. Lenox in 1853 for £18 18s.), was evidently compiled from these maps of Ferdinando Columbus and Ribero, while Henri HARRISSE thinks it preceded the 1527 map, and was very likely of the same authorship. Harris, the English penman, executed a facsimile of this wood-cut map in 1850, which is entitled: *La carta uniuersale della terra firma & Isole delle Indie occidentali, cio è del mondo nuovo fatta per dichiarazione delli libri*

delle Indie, cauita da due carte da nauicare fatte in Sibilbia da li piloti della Maieista Cesarea.

The original was printed at Venice in 1534. It is also given of quarter-size facsimile in Stevens's *Notes*, pl. ii.; and again in his illustrated edition of the *Bibliotheca Geographica*, no. 2955. This Venice map, according to Mr. Stevens, "notwithstanding all research, has remained unique to this day (1882)," and according to Mr. Brevoort and HARRISSE (*Cabot*, p. 168) it belongs to the conglomerate work of Peter Martyr and Oviedo (*Historia de l'Indie occidentali*), which was printed in three parts at Venice in 1534. MURPHY (*Verrazzano*, 125) quotes the colophon of the Oviedo part of the book to give the origin of the map: "Printed at Venice in the month of December, 1534. For the explanation of these books there has been made a universal map of the countries of all the West Indies, together with a special map [Hispaniola], taken from two marine charts of the Spaniards, one of which belonged to Don Pietro Martire, Councillor of the Royal Council of the said Indies, and was made by the pilot and master of marine charts, Nuño Garzia de Torenó in Seville. The other was made also by a pilot of the majesty, the emperor, in Seville." Quaritch, in one of his *Catalogues* (no. 349, p. 1277), says that an advertisement at the end of the secondo libro, of Xeres, *Conquista del Peru*, Vinegia, 1534, — shows that the map in the first ed. of Peter Martyr's *Decades* was made by Muño Garcia de Torenó at Seville. HARRISSE refers to a map of Torenó, preserved in the Royal library at Turin, which is dated 1522, in which he is called "piloto y maestro de cartas de nauegar de Su magestad." The American part of this last chart is unfortunately missing. Cf. Vincenzo Promis, *Memoriale di Diego Colombo con nota sulla bolla di Alessandro VI.*, Torino, 1869, p. 11. The subject is examined in a paper by Heinrich Wuttke, "Zur Geschichte der Erdkunde in der letzten hälfte des Mittelalters," in the *Jahresbericht des Vereins für Erdkunde in Dresden*, 1870, vol. vi. and vii. p. 61, etc. Inasmuch as Peter Martyr died in September, 1526, it is HARRISSE's opinion that the date given it by Stevens (1534) is not early enough, and that it should go back to a time anterior to Martyr's death. HARRISSE calls it the earliest known chart of Spanish origin which is crossed by lines of latitude and longitude, and thinks it marks a type, adopted by the Spanish cosmographer a little after the return of Cano from the Straits of Magellan and of Pascual de Andagoya from Panama in 1522, with additions based on the tidings brought by Gomez on his return to Seville in December, 1525. HARRISSE also refers to a portolano, Spanish and anonymous, which is preserved at Mantua, and which is numbered 168 in Uzielli's *Elenco*. Stevens considers Torenó's delineation of the eastern coast of the two Americas the best which had been drawn up to this date.

This Martyr-Oviedo compilation, which was the work of Ramusio, is not a very rare book without the map, and in this condition it is found in the Harvard College, Carter-Brown, J. C. Brevoort, H. C. Murphy, and Lenox libraries, — the latter being the Ternaux copy.

Cf. *Carter-Brown Catalogue*, i. no. 107; Stevens, *Hist. Coll.*, i. no. 344; and *Nuggets*, ii. 1808; *Sunderland Catalogue*, iv. 8177; Rich, *Catalogue* (1832), no. 10; Ternaux, *Bibl. Américaine*, no. 43.

Munster could hardly have derived much assistance from the two small maps which Apianus inserted in the first edition of his *Cosmographicus Liber*, 1524, — one showing "America" and the other marking an island "Ameri." This book is scarce and is worth £5 or £6. (Cf. *Carter-Brown Catalogue*, i. 78;

Huth Catalogue, i. 39, where the collation differs from that given in HARRISSE, *Bibl. Amer. Vet.*, no. 127; Sabin, *Dictionary*, no. 1738; Clement, *Bibl. Curieuse*, i. 404.) There was some change for the better in the shape of America as given in the 1539 edition.

Of perhaps the same year (1524) is the earliest globe to show North America disconnected from Asia, which is inscribed "Nova et integra universi orbis descriptio." It was long preserved at Prémontré and is now in the Bibliothèque nationale at Paris. It has no date. D'AVEZAC fixed it even before 1524; others have put it about 1540. (Raemdonck, *Les sphères de Mercator*, 28; Davezac in *Bull. de la Soc. de Géog.* (1860), xx. 398.) On the western coast of America is written: "Hec littora non dum sunt cognita." The eastern shores of North America are called "Terra Francesca."

There is in the Huth Library (*Catalogue*, iv. p. 1171) a MS. on vellum, covering ten very beautifully executed maps, apparently drawn by an Italian geographer for a Spanish or Portuguese navigator. It is a small folio (10 X 7 inches). The *Catalogue* gives no further description of the American regions than that "the southwest coast of South America is left blank, which would fix the date as not later than 1525 or 1530."

Nor could Münster have derived much assistance from the misshapen outline of America, which appeared in the *Libro di Benedetto Bordone*, in 1528, the first edition of the book, known later as the *Isolario*. The map was repeated in the 1533 edition. This outline is sketched in H. H. Bancroft's *Central America*, i. 144. There is a copy in the Astor Library. Cf. Sabin, *Dictionary*, ii. 6417; Lelewel, *Géog. du Moyen Age*, ii. 114, 162; *Carter-Brown Catalogue*, no. 91; HARRISSE, *Bibl. Amer. Vet.*, no. 145; Brunet, *Manuel*, i. 1112; Zurla, *Marco Polo*, ii. 363; Lenglet du Fresnoy, *Méthode pour étudier la Géographie*, i. 419; Renouard, *Annales des Aides*, i. 142.

Kohl, in his MS. in the American Antiquarian Society's library, gives 1530 as the date of a manuscript map in the British Museum, which is the earliest he can find, making a return to the view which obtained before Stobnicza, that North America was an easterly prolongation of Asia. This map places "Mangi provincia" in northern Mexico, which is connected westerly with the Asiatic main. Kohl has also included a copy of this map in his Washington collection. The original belongs to a MS. in the Sloane collection, called *De Principiis Astronomie*, and the configuration of the eastern coast of North America is identical with that of Finæus's map, next to be mentioned.

In 1531, Orontius Finæus (Oronce Finé) produced, at the cost of Christian Wechel, his cordiform map, which came out in the Paris edition (1532) of *Grænaeus's Novus Orbis*, and is entitled "Nova et integra universi orbis descriptio." A facsimile of it has been made by Muller of Amsterdam, and it is reproduced in Stevens's *Notes*, pl. 4, and was much reduced in Daly's *Early Cartography*, p. 34. The distortions incident to the projection which is used, makes Mr. Brevoort's rendering of it into Mercator's projection more comprehensible than the original. Stevens, *Notes*, pl. 4, gives this Brevoort drawing, and it is reproduced in the *Narrative and Critical Hist. of America*, iii. p. 21, and sketched in H. H. Bancroft's *Central America*, i. p. 149.

The geography of this Finæus map was the earliest return in a published map to the belief, just mentioned, that North America was really Eastern Asia, and South America a continental peninsula extending from Southeastern Asia. (Cf. Wiesner's *Magalhães-Strasse*, p. 66, et seq.) HARRISSE, *Cabot*, p. 182, has

pointed out the similarity of its nomenclature to the two Weimar charts of 1527 and 1529. The map in the folio edition of the *Epitome of Vadianus* (1534) is said to resemble this of Finæus, but with "notable changes." It is called "Typus cosmographicus universalis. Tiguri Anno. M.D.XXXIII." The *Huth Catalogue*, v. 1508, says: "We here find America marked, but it is represented as an island somewhat in the shape of South America." Leclerc, *Bibl. Amer.*, no. 586 (130 francs); *Carter-Brown Catalogue*, no. 112. The octavo edition of Vadianus of the same year has, we suspect, no map; but Quaritch a few years ago advertised a copy,—"the only copy he had ever seen containing the map," for £4.

Copies of the Paris edition of Grynæus are in the Lenox, Barlow, and Carter-Brown libraries,—the Lenox library having both varieties of imprint. The preface is said sometimes to be wanting; at other times it is disfigured by the crasures of paragraphs offensive to the Inquisition. Cf. *Harrisse, Bibl. Amer. Vet.*, nos. 172, 173; *Carter-Brown Catalogue*, no. 102; *Sabin's Dictionary*, ix. nos. 34101, 34102; *Leclerc, Bibl. Amer.*, no. 412 (150 francs) and 2769; *Stevens, Bibl. Geographica*, p. 124; *Sunderland Catalogue*, no. 263; *Müller, Books on America* (1872), no. 1847; *Kohl, Maps in Hakluyt*, p. 29.

The two Paris imprints are: "Apud Galeotum a Prato," and "Apud Joannem Parvum sub flore lilio." Copies have been priced of late at £15 and 40 marks.

This Finæus map of 1531 again appeared in the very year of Münster's new departure as shown in the "Novus Orbis" of the 1540 Ptolemy. This was as a part of the Pomponius Mela of 1540, with no change except that the dedication, which is set in type within a square at the bottom of the map, is given in a new letter. (Cf. *Leclerc, Bibl. Amer.*, no. 460 (200 francs); *Harrisse, Bibl. Amer. Vet. Additions*, no. 126. *Dufossé, Americana*, 8624 (70 francs).) It is also said to have appeared in the *Geografia* of Lafreri and others, Rome, 1554-72.

Finæus was also followed in the heart-shaped map of Mercator, the earliest of his engraved maps which have been preserved being dated 1538, while the only copy known is in the collection of J. Carson Brevoort. It varies, however, from Finæus in separating America from Asia by a narrow sea. (E. F. Hall's "Gerard Mercator, his life and works," printed in the American Geographical Society's *Bulletin*, 1878; Mr. Brevoort's *Appendix*, p. 196.) Again, it would seem there was some reciprocity of obligation, when Schoner in 1533 produced his globe of that year, already referred to under the Ptolemy of 1522. (Cf. *Wieser's Magalhães-Strasse*, pp. 79, 80).

There had been during this interval which we are considering an English merchant, Robert Thorne, residing at Seville, who was interested in cosmography. He had picked up the current notions as they prevailed in Spain, and embodied them in a map in 1527, which he sent with a treatise upon it, to Dr. Ley, the English ambassador then residing near the emperor Charles V. It may be taken as a type of the information which reached Münster from Spain, and *Harrisse (Cabot*, pp. 91, 176) compares it with the type shown in the 1527 and 1529 Weimar maps. In its engraved form it did not appear till Hakluyt included it in his *Divers Voyages* in 1582. It is reproduced in the Hakluyt Society's edition of that book; in *Brown's Hist. of Cape Breton*, p. 22; and the American part is shown in the *Narrative and Critical Hist. of America*, iii. p. 17. It makes Asia distinct from America, but leaves the western

shores of the latter continent undefined, and cut off by the margin of the sheet. It connects South America with North America. All the early representations of that continent, with the sole exception of the remarkable Stobnicza map, make it an island, in pursuance of the belief which had come down from the time of Strabo that all seas were connected. Santarem in the *Bull. de la Soc. de Géog.* (1847), vii. p. 318, has discussed the question of the duration of this belief, as shown by the early maps; but when he cites the Ptolemies of 1513 and 1522 and Bordone of 1528 and 1533 as making South America a "continent," he assumes what the maps do not disclose; and again in putting 1548 as the date (citing the Ptolemy of that year) when the maps begin to show the connection of South America by an isthmus, he unaccountably overlooks the map in Medina's *Arte de navegar* of 1545, the Cabot mappemonde of 1544, the Mercator gores of 1541, the maps of Apianus, 1540-45, the Münster map of 1540, an Agnese map of 1536, Orontius Finæus of 1531, the Verrazzano chart of 1529, Ribero's of the same year. The Nancy Globe might possibly also antedate 1548. All later maps, if we except repetitious issues like those of the Honter globe (originally published in 1542), seem to recognize the link of the isthmus. The most distinctive insular shape given to South America is found in Coppo's map of the world of 1528, which shows a northern coast much indented, with a southern limit rounded in an indefinite way and much cut short of its proper extension towards the antarctic pole. North America does not appear unless a large island, "Isola verde," northeast of Cuba, stands for the Bacalaos region, or perhaps for Greenland. There are drawings of this Coppo map in the collections of the State Department and of the American Antiquarian Society. The original is found in a *Portolano per Piero Coppo*, published at Venice in 1528,—a copy of which is in the British Museum.

Of the voyage of Jacques Cartier up the St. Lawrence in 1534, there is no evidence in Münster's map, though he applies the name "Francisca" to the northern regions. If Cartier made any charts, none are now known. *Harrisse (Cabot*, p. 145) accounts for the retention of the old notions about this region by supposing that the first two voyages of Cartier attracted little attention outside of France; and it was not till after 1540 that more definite cartographical results of Cartier's explorations began to appear, unless something can be learned from the MS. Spanish map in the Huth library, which *Kohl (Discovery of Maine*, p. 315) describes. *Harrisse (Cabot*, p. 205) enumerates some of the cosmographers at this time in France,—Germain Sorin, Jehan de Conflans, Jean de Clamorgan and Pierre Desceliers; and (p. 148) he refers to two maps of the time of Francis I.;—one mentioned by Delisle in his *Cabinet des MSS. de la bibliothèque impériale*, Paris, 1866, i. p. 265, as "Cosmographie ou cartes géographiques et hydrographiques présentées par Jean de Clamorgan à François 1er," to which is added, "le volume est en déficit;" and the other is "Cartes de tout l'Univers, 1536," preserved in the Sir Thomas Phillipps Collection at Cheltenham, and made by, or perhaps only once owned by, Gnyon de Sardière.

There are noted as in the *Kohl* collection (State Dept. Washington), two maps of about this time, which will repay examination,—one is called F. Roselli's of 1532, and the other a Zurich map of 1533.

Münster could hardly have been helped by the vellum portolano inscribed: *Gaspar Viegas, Dato*

1534, which was removed in 1865 from the national archives in Paris to the map department of the Bibliothèque nationale (no. 18772). It is partly figured in Kohl, *Discovery of Maine*, p. 348. HARRISSE (*Cabots*, p. 183) says that the names are all in Portuguese; that researches in Portugal have not revealed any information regarding Viegas; but that in the same collection is an undated map with his name, not however pertaining to America. The map which at present concerns us shows in the northwest corner the region of the St. Lawrence Gulf.

HARRISSE (*Cabots*, p. 185) also cites as of the same date (1534) a map preserved in the Ducal library at Wolfenbüttel, which resembles the type of the 1527 and 1529 Weimar maps, and in which Newfoundland is a continental projection. The legend at Labrador says that this land was discovered by the English from Bristol, and named Labrador, because the one who first saw it was a laborer from the Azores,—the usual interpretation being that it was so called, because Cortereal had taken away some of its natives and sold them at Lisbon as slaves,—Mr. BIDDLE (*Mem. of Cabot*, p. 246) having deduced this meaning from a letter of Pasqualigo in the *Paesii novamente ritrovati*, 1507, lib. vi. cap. cxxvi.

It is also to be regretted that the map of the eastern coast of North America, made by Alonzo de Chaves in 1536, and upon which Oviedo based his description of the coast, is not now known. (Kohl's *Discovery of Maine*, p. 307.) Alonzo de Chaves was made a royal cosmographer, April 4, 1528, and still held that title at the age of 92 in 1584. (HARRISSE, *Cabots*, p. 173; VEITIA LINAGE, *Norte de la Contratacion*, p. 145.)

Santarem, *Bull. de la Soc. de Géog.* (1847), vii. 322, makes mention of a globe of 1534, preserved in the Grand Ducal library at Weimar, which shows a strait at the isthmus of Panama. It is not easy to identify this globe from his brief description.

Copies: (1) *Astor Library*; (2) *The Henry C. Murphy Library*; (3) *Samuel L. M. Barlow*,—the copy described by HARRISSE.

References: *Carter-Brown Catalogue*, no. 126; HARRISSE, *Bibl. Amer. Vet.*, no. 231; GRASSE, *Trésor de livres*, v. 501; LECLERC, *Bibl. Amer.*, no. 477; BRUNET, *Manuel*, *Supplément*, ii. 331; STEVENS, *Hist. Coll.*, i. no. 678; *Astor Library Catalogue*; *Bibl. Heberiana*, v. 5398; MULLER, *Books on America* (1875), no. 3249; HOFFMANN, *Lexicon*, iii. 319; LELEWEL, *Géog. du Moyen Age*, ii. 176, 208; H. C. MURPHY, *Verrazzano*, p. 103; J. G. KOHL, *Discovery of Maine*, p. 296.

Copies have been priced of late years at £6 10s. and 90 francs.

1541.

Title: *Claudii Ptolemæi Alexandrini Geographica Enarrationis Libri Octo. Ex Bilibaldi Pirckheimeri translatione, sed ac Græca & prisca exemplaria a Michaële Villanovano, secundo recogniti, & locis innumeris denuò castigati. Adjecta insuper ab eodem Scholia, quibus & difficilis ille Primus Liber nunc primum explicatur, & exoleta urbium nomina ad nostri seculi morem exponuntur. Quinquaginta illæ quoque cum veterum tum recentium Tabulæ adnectuntur, variiq. incoleantium ritus & mores explicantur. Accedit Index locupletissimus hactenus non visus. Prostant Lugduni apud Hugonem à Porta. M.D.XLI.*
Colophon: *Excudebat Gasper Trechsel, Viennæ, M.D.XLI.* (Copied from the *Carter-Brown Catalogue*.)

Description: Folio. Title, with the address of Servetus, its editor, on the reverse, with the text,

making 149 pages (p. 9 is unnumbered, and p. 150 is blank); 50 maps, each two leaves, with descriptions on reverse; index of 46 (not 56) unnumbered leaves; table, one leaf; colophon, one leaf. The Barlow copy has a table on the reverse of p. 149, followed by the colophon leaf, and the maps next, with an index of 46 (not 56) leaves, and the table and colophon leaves at the end. There are some additions to, and omissions from, the 1535 edition, the paragraph on the barrenness of Palestine disappearing; but that on Columbus and Vesputius is retained. Leclerc says: "L'adresse de Trechsel, . . . indique parfaitement le vol. est imprimé à Vienne, en Dauphiné." Cf. D'ARTIGNY, quoted by Brunet, *Supplément*, ii. 331, who adds, "Cette édition est belle, mais moins rare et moins précieuse que ne le prétend d'Artigny."

Maps: Fifty in number, 49 of them occupying two leaves each, with descriptions on the reverse; but the 50th (Lorraine) is on the reverse of the Rhine provinces. The "Tabula terræ novæ" and the "Orbis typus universalis" are reprints of similar maps in the 1522, 1525, and 1535 editions.

The description of the new world is on sig. 28, reverse of map, and ends as follows: "Tota itaque quod aiunt aberrant coelo qui hanc continentem Americâ nuncupari contendunt, cum Americus multo post Columbû eandè terram adieret, nec cum Hispanis ille, sed cum Portugallensibus, ut suas merces commutaret, èo se contulit."

Copies: (1) *Carter-Brown library*. (2) *James Carson Brevoort*. (3) *Charles H. Kalbfleisch*.

References: *Carter-Brown Catalogue*, no. 127; *Bibl. Grenvilliana*, ii. p. 582; Leclerc, *Bibl. Amer.*, no. 476 (250 francs); *Walckenaer Catalogue*, no. 2251 (60 francs); HARRISSE, *Bibl. Amer. Vet.*, no. 233; BRUNET, *Manuel*, iv. 955, and *Supplément*, ii. 331; GRASSE, *Trésor de livres*, v. 501; LIBRI, *Catalogue* (£20 10s); D'ARTIGNY, *Nouveaux Mémoires d'histoire*, ii. 65; DUFOSSE, *Americana*, no. 8638 (150 francs); QUARITCH, *Catalogue* (1880), 1154; MULLER, *Books on America* (1872), no. 2311; (1875), no. 3250; (1877) no. 2622; HOFFMANN, *Lexicon*, iii. 319; *Crevenna Catalogue*, v. 20; *Labanoff Catalogue*, no. 24; *Kloss Catalogue*, no. 3325.

The English dealers usually price this edition at from £3 to £5; the French at from 50 to 100 francs.

1541.

Title: Same as the 1540 edition, of which this is a reissue, with merely a new date.

Copies: (1) *The Henry C. Murphy Library*.

1542.

Title: *Geographia universalis, vetus et nova, complectens Claudii Ptolemæi Alexandrini enarrationis libros viii. Quorum primus nova translatione Pirckheimeri et accessione commentarii illustrior quam hactenus fuerit, redditus est. . . Succedunt tabulæ Ptolemaica, opera Sebastiani Munsteri novo paratæ modo. His adjecta sunt plurimæ novæ tabulæ, modernæ orbis faciem literis & picturis explicantes, inter quas quædam antehac Ptolemæo non fuerunt additæ.*

Colophon: *Basileæ apud Henricum Petrum mense Martio, An. M.D.XLII.* (Copied from the Trumbull copy.)

Description: Folio. Generally said to collate like the 1540 edition; but the Barlow copy has this collation: Title, reverse blank; epistola, 2 leaves;

blank leaf; index, 6 leaves; liber i., 17 leaves; blank leaf; title; 48 maps; liber ii., pp. 1-196. Of these, p. 156 is blank, and p. 196 has the printer's mark only.

Dr. Trumbull says of his copy, that the maps (48) are placed between (the blank) page 156 and Sebastian Münster's "Appendix Geographica," pp. 157-195. The text of the *Ptolemy*, proper, ends on p. 155, the recto of N (6), — the last leaf of a signature. The "Appendix Geographica" begins, p. 157, on the recto of Aa (1), — commencing a new alphabet of signatures.

What HARRISSE calls "the title of the maps" is merely the title or description of the *first* map ("Typus universalis"), — "Orbis universalis Descriptio." Each of the 48 maps has the title (and description) on the recto of the first leaf, the map being printed on the inside of the sheet, leaving the verso of the 2d leaf blank.

Holbein is said by some to have engraved the borders; but Dr. Trumbull thinks they were blocks, — perhaps in some cases designed by Holbein, — evidently used from the publisher's stock; and that they had done earlier service in other books. The border to Tabula x. is dated 1523; while that used both in iii. and xxviii. shows the monogram of Adam Petri. Groups of boys, like Holbein's, are in nos. i., v., xiv., xix., xxiv., xxvii. Cf. C. F. v. Rumohr's *Holbein*, Leipsic, 1836, p. 114.

The editor is called on the recto of the second leaf: "Sebastianus munsterus in Basiliensi academia Hebraismi professor."

Maps: Same as in the 1540 and 1541 editions, edited by Münster.

HARRISSE puts the "Orbis universalis" on the reverse of the title to the maps, and on the recto of the following leaf.

Copies: (1) *Astor Library*. (2) *The Henry C. Murphy Library*. (3) *James Carson Brevoort*. (4) *J. Hammond Trumbull*. It is in old stamped leather binding; on the title is: "Collegii Societatis Eystadij, 1662"; on the inside cover: "Ex dono Jesu Reverendissimi et Celsissimi Epi. ac Principis Marquardi. Ao. 1662." (5) *Samuel L. M. Barlow*, with maps, initials, &c., colored by hand.

References: HARRISSE, *Bibl. Amer. Vet.*, no. 240, whose collation is of an imperfect copy and varies from other descriptions; BRUNET, *Manuel, Supplément*, ii. 331; *Astor Library Catalogue*, p. 1524; GRAESSE, *Trésor de livres*, v. 501; QUARITCH, *Catalogue* (1880), 1154; HOFFMANN, *Lexicon*, iii. 320.

Copies are priced at £5 and £10.

1543.

Leleweil gives an edition of this year: "Venetiis, atlas cum tabulis novis Jacobi Gastaldo"; and refers to Zurla, *Sulle antiche mappe idrogeogr.*, ch. 31. D'AVEZAC says the edition of 1548 is the one meant, and that there is none of 1543. Cf. D'AVEZAC, *Sur la Projection*, etc., Paris, 1863, p. 72, — an extract from the *Bull. de la soc. géog.*

1545.

Title: *Geographia universalis, vetus et nova, complectens Claudii Ptolemaei Alexandrini enarrationis Libros viii. Quorum primus nova translatione Perckheimheri & accessione Commentarioli illustrioris quàm hactenus fuerit, redditus est. . . Succedunt tabula Ptolemaica, opera Sebastiani Munsteri novo parata modo. His adiecta sunt plurimae novae tabulae, modernam orbis faciem literis & picturae explicantes, inter*

quas quaedam antehac Ptolemaeo non fuerunt additae. . . Basileae, apud Henricum Petrum Anno M.D. XLV.

Colophon: *Basileae per Henricum Petrum mense Augusto An. M.D. XLV.* (Copied from the Harvard College copy.)

Description: Folio. Title, with a figure of Münster taking an observation on the reverse; 9 unnumbered preliminary leaves, including six of index; liber i. 17 unnumbered leaves; blank leaf; liber ii. to viii. and appendix, pp. 155, p. 156 blank; the 54 double maps; appendix, pp. 157-195, colophon on 195, and printer's mark on 196.

Brunet's collation, *Supplément*, ii. 331, is quite different: Title, 1 folio; 3 folios not numbered; 16 folios not numbered for the index; 1 folio blank; 155 pp. numbered; xxxv. pp. for appendix; 17 folios not numbered; 54 double maps. Brunet probably followed the collation given by HARRISSE, *Additions*, no. 155, from a copy in the library of Bologna University.

Maps: Two maps of the world, the first containing America, the other the ancient world; and 52 other maps, each filling two leaves with descriptions on the reverse. (Graesse says 53 maps in all.) The last map of the new series, numbered xxvi. is "Novae Insulae," the common Münster map of the two Americas, as in the 1540 edition, but the inserted names are in Latin. The "Dania et Schonlandia" shows a bit of Grünland on the north. The map of the world, with America, is re-engraved in the 1552 edition, and in the 1554 edition of Münster's *Cosmographia*.

Copies: (1) *Carter-Brown Library*. (2) *The Henry C. Murphy Library*. (3) *J. R. Webster*, of East Milton, Mass. (4) *Library of Congress*. (5) *Harvard College Library*.

References: *Carter-Brown Catalogue*, no. 140; BRUNET, *Manuel, Supplément*, ii. 331; *Chatsworth Catalogue*, iii. 269; *Library of Congress Catalogue* (1867), p. 332; HARRISSE, *Bibl. Amer. Vet.*, *Additions*, no. 155; describing a copy differing slightly; HARRASSOWITZ, *Katalog*, no. 81, book-number, 56 (38 marks); T. O. WEIGEL, *Catalogue* (1877), no. 1477 (28½ marks). A fine copy priced in Italy (1883) at 75 lire.

1546.

Title: *Claudii Ptolemaei Alexandrini philosophi cum primis eruditi, de Geographia libri octo, summa vigilantia excusi, cura Des Erasmi. Parisiis, apud Chr. Wechelum, 1546.*

Description: Quarto. Four preliminary leaves and 435 pages. A reimpression of the 1533 edition of the original Greek text. Brunet says that the book has not the index mentioned in the title.

Maps: None.

Copies: (1) *Yale College Library*.

References: BRUNET, *Manuel*, iv. 950; *Sunderland Catalogue*, iv. 1035t.

1547.

** See the edition of 1548, which is dated 1547 in the colophon.

1548.

Title: *Ptolomeo. La Geografia di Claudio Ptolomeo Alessandrino, con alcuni comentis & aggiunte fattui da*

Sebastiano munster Alamanno, Con le tavole non solamente antiche & moderne solite di stãparsi, ma altre nuove aggiunte di Messer Iacopo Gastaldo Piemontese cosmographo, ridotta in volgare Italiano da M. Pietro Andrea Mattiolo Senese medico Excellentissimo con l'aggiunta d'infiniti nomi moderni, di Città, Provincie, Castella, et altri luoghi, fatta cõ grandissima, diligenza da esso Meser Iacopo Gastaldo, il che inissun altro Ptolemeo si ritrova. Opera veramente non meno utile che necessaria. In Venetia per Gioh. Baptista Pedrezano. Co' l privilegio dell' Illustriss. Senato Veneto per anno x. MDXLVIII.

Colophon: *In Venetia, ad Instantia di messer Gioua battista Pedrezano libraro al segno della Torre a pie del ponte di Rialto. Stampato per Nicolo Bascarinini nel Anno del Signore, 1547, del mese di Ottobre.* (Copied from the Marcou copy.)

Description: Small octavo. Including title with an engraved border, and one leaf with a woodcut of an astronomer, there are eight preliminary leaves; text 1-214 numbered leaves; register and colophon one leaf, on reverse blank; one folio blank; 60 double leaves, each with a map and description; "tavola," 64 leaves unnumbered.

The first edition of Ptolemy in Italian.

Maps: Sixty in all, well engraved on metal. They are based on the maps of the 1540 edition; but in some respects they are new in their geographical ideas. Santarem claims that we have South America as a continent for the first time; but he was ignorant of the Stobnicza map, not to mention others.

There are ten numbered maps of ancient and fifteen unnumbered of modern Europe; four numbered maps of ancient and five unnumbered of modern Africa; twelve numbered maps of ancient and seven unnumbered of modern Asia.

The American series is as follows:—

No. 54, "Della terra nuova." South America.

No. 55, "Della nova Hispania."

No. 56, "Della terra nova Bacalaos." This stretches from Florida to Labrador, and represents the St. Lawrence gulf as an archipelago, with no record of Cartier's explorations in that region.

No. 57, "Dell' isola Cuba nuova."

No. 58, "Dell' isola Spagnola."

No. 59, "Dell' universale nuova." An elliptical projection of the world, showing North America as a prolongation of Asia, with South America as a continental peninsula.

No. 60, "Della carta marina universale." South America is much as in no. 59, but North America, while still a part of Asia, is very differently drawn. A large gulf is northwest of California, while the Ganges is at the extreme western limit of the map. A sea at the north, like that of Verrazano, nearly severs the continent, making an isthmus in about 40° north latitude. Bacalaos, Labrador, and Gronlandia form a continuous isthmus widening midway, but narrowing again in the extreme northeast, where it once more expands into Laponia in the northwest of Europe. The earth is thus belted by land.

Jacobo Gastaldo, or Gastaldi, was, as Lelewel (*Épilogue*, 219) calls him, "le coryphée des géographes de la péninsule italique," from 1543 to 1570.

Since the issue of Münster's series of maps in 1540, and up to the time of this first Italian edition (1548), there were various charts and maps, drawn or published, which might directly or indirectly have exerted an influence upon Gastaldi's cartographical views. There were others, indicative of the progress

of ideas, which could hardly have been known to him. Both kinds will now be passed in review.

The Amazon was explored in 1539, and probably within the next few years, the so-called Nancy Globe was made, since it represents those discoveries. It presents one more link in the succession of geographical ideas, which kept (as in Gastaldi's no. 59) to the original theory of the identity of North America with Asia, and which finds a "Mare cathayum" in the Mexican gulf. This globe was given by Duke Charles V. of Lorraine to the church at Nancy, and being made to open in the middle, it was long used as a pyx. It is now preserved in the Public Library of that town, and was described, with an engraving by M. Blau in the *Mémoires de la société royale de Nancy*, in 1836, and drawings of it were again given in the *Compte-Rendu* of the Congrès des Américanistes, 1877, p. 359: and once more by Dr. De Costa in the *Mag. of Amer. Hist.*, March, 1881.

An edition of the *Cosmographia* of Apianus, issued in 1540 at Antwerp had a map (which has been reproduced in Lelewel's *Géog. du Moyen Age*, pl. 46) with an account, "Insulæ Americæ adjacentes" on folio 44.

Cf. *Carter-Brown Catalogue*, i. no. 125; HARRISSE, *Bibl. Amer. Vet.*, no. 230; SABIN, *Dictionary*, no. 1745.

A mappemonde is also usually found in the 1544 (French) and 1545 (Latin) editions, as well as in the 1548 (Spanish) edition of Apianus; which also appeared in later editions. A copy of the 1544 edition, with a defective map is in the Boston Athenæum. North America joins South America and stretches north, in a narrow belt of land, marked "Baccalaearum," with a parallel coast of India, in the northerly parts, separated by a narrow sea. Cf. Sabin, no. 1752; *Carter-Brown Catalogue*, i. no. 592. It bears some resemblance in these northeastern parts to Gastaldi's no. 60, except that there is no connection made with northwestern Europe. I have used Mr. George Dexter's copy.

A similar reiteration of earlier maps also took place in the edition (1547) of Bordone's *Isolario*, which appeared in the interval under consideration.

In 1541, Gerard Mercator issued some engraved gores for a globe, of which three copies are known,—one in the Royal Library at Brussels, the second in the Imperial Court Library at Vienna, and a third at Weimar,—the last may be doubtful. They have all been discovered of late years; and in 1875 the engraving was reproduced in facsimile at Brussels, copies of which reproductions (200 were printed) are in Harvard College, the State Department (Washington), and in the American Geographical Society libraries.

Cf. Raemdonck's *Les sphères de Mercator*, the text accompanying the facsimile, and his *Sur les exemplaires des grandes Cartes de Mercator*, Paris, 1878, p. 9; Steinhauser in *Mittheilungen d. Wiener Geog. Gesellschaft*, 1875, p. 589; Wieser in the *Sitzungsberichte* of the Vienna Academy, Phil.-hist. class, 1876, p. 547, and in his *Magalhães-Strasse*, p. 69. This 1541 map of Mercator puts a sea between America and Asia; and in the region of the St. Lawrence gulf resembles Gastaldi's no. 56.

Under 1542 is to be put the globe, made by Euphrosynus Ulpius, which has already been referred to, and which is of copper, fifteen and a half inches in diameter. It is now in the rooms of the New York Historical Society, having been discovered in Spain by Buckingham Smith in 1859. It passed after Mr. Smith's death, by purchase, into the society's custody. It is described in the *Hist. Mag.*, 1862,

p. 302, and the American parts are engraved in Mr. Smith's *Inquiry into the authenticity of Verrazano's claims* in Henry C. Murphy's *Verrazano*, p. 114; in the *Narr. and Crit. Hist. of America*, iv.; and in De Costa's paper in the *Mag. of Amer. Hist.*, Jan. 1879, afterwards included in his *Verrazano, the Explorer*, p. 64. The globe is of Italian make, and is thought to have been made in Rome. It has the Verrazano Sea, as in Gastaldi's no. 60, but gives no token of Cartier's discoveries.

The map, which is usually cited as the "Henri II. map," has heretofore been considered of a somewhat uncertain date. Jomard, who gives (pl. 19) a facsimile of it, describes it as a "mappemonde peinte sur parchemin par ordre de Henri II., roi de France," and as belonging to the middle of the century. D'Arvezac places it in 1542 (*Bulletin de l'Académie des Inscriptions*, 30 Août, 1867). Kohl, in his *Discovery of Maine*, p. 351, sets its completion at 1543, and calls it "one of the most exact and trustworthy of the time."

The original belonged to Jomard, and was offered at his sale (*Catalogue*, Paris, 1864, no. 121) for 2,000 francs, and is now in the collection of the Earl of Crawford and Balcarres. Cf. HARRISSE, *Cabots*, p. 210, who gives a long account of the map and refers (p. 149) to it as being the earliest to give an approximate configuration to the Gulf of St. Lawrence and insularity to Newfoundland. Of late years, under the scrutiny of Mr. Major, the following legend has been made out, fixing the date somewhat later: *Faites a Arques par Pierre Desceliers, presb^r 1546*, which is written, and now almost illegible, in the top left-hand corner near Japan. HARRISSE, *Cabots*, p. 216, gives an account of Desceliers, of which we shall find other maps later.

Kohl gives a reproduction of the parts of it representing eastern North America. The Cartier discoveries are recognized in it; but from the Spanish names along the coast it is evident the maker had Spanish charts before him also, and yet as it bears names in this language not in Ribero or in any earlier Spanish chart known to us, it would follow that through the banished Portuguese De Sylva, or some other helper, its compiler had drawn from sources not now extant.

In 1790 the British Museum acquired a similar map which is described by Malte-Brun in his *Hist. de la Géographie* (1831), i. 630, and which is noted in the *Catalogue of the MS. maps in the British Museum* (1844), i. 22; add MSS. no. 5413. It is the map described by HARRISSE, *Cabots*, p. 197, as the "Mappemonde Harleyenne." The British Museum catalogue dates it before 1536; but HARRISSE says 1542. It shows Newfoundland as an archipelago. As the Saguenay is not given, HARRISSE places its date before October, 1542, when in his third voyage Cartier explored and named that river; and thinks it is based on a Portuguese map, improved by a knowledge of Cartier's discoveries.

There is also in the British Museum (*Catalogue of MS. maps*, i. 23) the *Hydrographie* of John Rotz (1542), which is dedicated to Henry VIII., and to which Malte-Brun refers in his *Hist. de la Géog.*, ii. 631. It contains several American maps:—

No. 9. Gulf of Mexico and the Pacific from 34° North to 11° South.

No. 17. East coast of North America, from 6° to 51° North. Newfoundland is cut up into islands, and on the adjoining sea is this legend: "The newe fonde londe whar men goeth a fishing." According to HARRISSE, *Cabots*, p. 204, Rotz used the Portuguese-Dieppe authorities for this region.

No. 19. East coast of South America, from 6° South to the Straits of Magellan.

No. 20. Eastern and Western hemispheres.

Kohl cites and uses these maps in the collection in the Department of State at Washington, and sketches of them are given in the *Narr. and Crit. Hist. of America*, vol. iv.

The atlas is described by HARRISSE, *Cabots*, p. 77, 147, 201, and is thus entitled: *This boke of Idrographie is made by me Johne Rotz, sarvant to the kinges mooste excellent Majeste. God saue his Majeste,*" and at the end is dated in the year of our Lord God's Jm. V^e XLII^e, and of his regne the xxxiiij yere.

According to HARRISSE, Rotz was a Frenchman of Flemish name.

The Kohl collection at Washington shows an Oxford and a Gotha map of about this time; and one of Diego Homem of 1542.

In the Mediceo-Laurenziana of Florence there is an atlas inscribed: "Baptista Agnese Januensis fecit Venetiis 1543 die 12 Februarii." The words "Stegen Comes" on North America chronicle the explorations of Estevan Gomez. Cf. Baldelli, *Storia del milione*, i. p. lxxv.; Zurla, *Di Marco Polo*, ii. 369; Desimoni, in *Giornale Ligustico*, ii. p. 57.

There is in the Coburg-Gotha archives another map, marked "Baptista Agnese fecit, Venetiis, 1543, die 18 Febr.," which resembles the Ribero chart. A portion of the eastern coast of North America is given in Kohl's *Discovery of Maine*, 316. There is another copy in the Huth library in London of the same date, while that in the Paris library is dated June 25. HARRISSE, *Cabots*, p. 189.

Kohl, *Description of Maine*, p. 294, cites one by Agnese of date 1544, as preserved in the Royal library at Dresden.

HARRISSE, in his *Notes sur la Nouvelle France*, nos. 188, 189, cites a chart of the North American coast, being nos. 5 and 6 of an atlas by Baptista Agnese, dated "le 8 mai, 1545, à Venise," preserved in the Marciana collection. HARRISSE refers to: P. Matkovic, *Alte handschriftliche Schiffer-Karten in der Bibliothek zu Venedig*, Wien, 1863, p. 10; G. Berchet, *Portolani esistenti nelle principali biblioteche di Venetia*, Venetia, 1866; Belgrano, *Rendiconto dei lavori d. Societ. Ligure*, Gênes, 1867. Cf. HARRISSE, *Cabots*, p. 189.

Under the 1540 edition of Ptolemy (*ante*) mention was made of a Ruscelli map of 1544, to be found in the British Museum, and of which a sketch is given, showing, however, only the North American parts, in Kohl's *Discovery of Maine*, p. 296, and in H. H. Bancroft's *Central America*, i. 148. It very closely resembles the map no. 60 of the present edition (1548) of Ptolemy. Cf. Lelewel, *Géog. du Moyen Age*, p. 170; Peschel, *Gesch. der Erdkunde* (1865), p. 371. Ruscelli's work will again be considered, when we come to the edition of 1561.

At this time (1544-45) we must place the drawing prefixed to a MS. in the Paris library (*fonds français*, no. 676), which bears this for a reconstructed title: *Cosmographie avec espere et regime du Soleil et du nord en nostre langue francoyse composée par Jehan Allefonsee et Paulin Secalart cosmographe de Honnefleuc*. Allefonsee was captain and pilot of Francis I., and a native "du pays de Xaintonge près la ville de Cognac." Cf. HARRISSE, *Nouv. France*, nos. 2, 3, 4, 9 and 13; *Cabots*, p. 206. This MS. was afterwards published in an abridged form in *Les Voyages Avantureux du Capitaine Ian Alfonse, Sainctongeois*, Poitiers, 1559, and there were subsequent editions, Rouen, 1578; Paris, 1598; La Rochelle, 1602 and 1605. It is in part given in Hakluyt's *Principall Navigations*, iii. p. 237. Alfonse explored the Straits

of Belle Isle, the St. Lawrence, and the Saguenay. There are later summaries of the MS. given in Margry's *Les navigations françaises*, Paris, 1867, p. 228, and in Guerin's *Navigateurs français*, p. 109. De Costa's *Northmen in Maine*, p. 92, claims that Alfonse was the first discoverer of Massachusetts Bay. Murphy's *Verrazzano*, p. 37, gives a chart of the Norumbega coast after Alfonse's map, 1544-45, and the several hydrographical plots of Alfonse's are sketched in the *Narr. and Crit. Hist. of America*, vol. iv., in connection with a paper by De Costa. See D'Avezac on Alfonse in *Bulletin de la Société de Géographie*, 1857, p. 317; also *Mag. of Amer. Hist.*, ii. 376. *Le Routier de Jean Alphonse* was published by the Lit. and Hist. Soc. of Quebec in 1843. He supposed the Saguenay led to the Pacific and Cathay; and he brought out Cape Breton, as Rotz did, distinctly as an island.

Another recognition of the Cartier explorations is found in the map belonging to the Sir Thomas Phillips collection, which shows the eastern parts of North America, and is figured in Kohl's *Discovery of Maine*, p. 354. It is inscribed "Nicholas Vallard de Dieppe dans l'année, 1547,"—but it is not agreed if this be the maker's or merely the owner's name. Cf. Major's *Early Voyages to Australia*, pp. xxvii., xxxv. The Atlas, of which this is but part, seems rather to have been originally made by a Portuguese than by a Frenchman, and Kohl conjectures that it found its way to Dieppe through the instrumentality of the faithless Bishop of Viséu, Da Sylva, and was copied by a Frenchman. It was first described, while in the possession of prince Talleyrand, by Barbié du Bocage in the *Magasin Encyclopédique* (Millin), iv. (1807) p. 107. HARRISSE, *Cabots*, p. 219, finds resemblances in it to the so-called Henry II. map.

Still again are the Cartier discoveries fairly recorded in the large mappemonde of 1544, engraved on copper, and ascribed, with some uncertainty, to Sebastian Cabot. It leaves northwestern America and northeastern Asia undefined, with the designation "Terra incognita." Only one copy of it has been found, and that was discovered in 1843, in Germany, by Von Martius, and in the following year it was taken to the National library in Paris, where it now is. According to HARRISSE (*Cabots*, p. 153) the map was bought in 1844 of M. de Hennin for 400 francs. Cf. *Essai sur la bibliothèque du roi*, Paris, 1856, p. 285. D'Avezac has described it in the *Bulletin de la Société de Géographie*, 1857, p. 268, and Mr. Charles Deane has submitted it to a careful examination in the *Narrative and Critical Hist. of America*, iii. p. 20. Jomard has given a facsimile of it in his *Monuments de la Géographie*, pl. xx., without the marginal legends, which have never been published in full with any facsimile of the map, but they have lately been reproduced in a large and full-size photographic facsimile in 32 sheets, which in 1882 was made for American subscribers, through the mediation of the Hon. Robert C. Winthrop. There are copies of this facsimile in the following libraries: Harvard College, Boston Public, Massachusetts Historical, Boston Athenaeum, New York State (Albany), Philadelphia, American Antiquarian Society, Virginia Historical Society, and Long Island Historical Society; also in the Collection of Gen. John M. Brown in Portland. Cf. *Mass. Hist. Soc. Proc.*, xix. 387.

Reproductions on a reduced scale of the American parts of it are given in Stevens's *Notes*, pl. 4; Kohl's *Discovery of Maine*, p. 358; Jurien de la Gravier's *Les Marins du xv^e et du xvi^e siècle*, Paris, 1879; Nicholl's *Life of Sebastian Cabot* (inaccurate

in the names); *Hist. Mag.*, March, 1868, in connection with a paper by J. C. Brevoort; *Narrative and Critical Hist. of America*, iii. 22; F. Kidder's *Discovery of North America by John Cabot*; Gay's *Pop. Hist. U. S.*, i. 193; Augusto Zerri's *Giovanni e Sebastiano Caboto*, Roma, 1881; and much reduced (the whole being given) in Daly's *Early Cartography*. A facsimile in colors of the North Atlantic parts, made by Pilinski, is given in HARRISSE's *Cabots*, with descriptions, p. 54.

It is to be remarked that the map has been the subject of some suspicion, at least so far as any immediate connection of Cabot with it goes, and the absence of publisher's name and the place of publication has added to the complications of the investigations about it. Its inscriptions are in Latin and Spanish; but Kohl has pointed out the improbability of its execution in Spain, where the authorities were averse to the publication of the charts of their discoverers. If the map was published in Belgium or Germany, Cabot, who was now in Spain, could hardly have had close connection with it, as its errors of Spanish and of other kinds would also indicate. HARRISSE, *Cabots*, p. 153, has pointed out that the map is mentioned by Livio Sanuto (*Geographia distincta in xii libri*, 1588, fol. 2); by Ortelius, in the list of maps in his *Theatrum of 1570*; by Sir Humphrey Gilbert (*Hakluyt*, iii, 24); by Richard Willes (Eden's *Hist. of Travayle*, 1577, fol. 232); by Hakluyt (*Principal navigations*, 1589, p. 511, and 1599, iii. p. 6); and by Purchas (*Pilgrimage*, 1625, iii. 807); though it may be doubted if all these references refer to this engraved map. HARRISSE, however, taking the diversities of the descriptions, supposes there were four editions of it, which he notes thus:—

1. In the Bibliothèque nationale, dated 1544.
2. Seen at Oxford in 1566 by Nicholas Kochhaff and dated 1549.
3. Engraved by Clement Adams and described by Hakluyt in 1589.
4. Described by Purchas, which may be, however, much the same as one of the three already named.

HARRISSE's conclusion (*Cabots*, p. 84) is, that Sebastian Cabot based his mappemonde on a Portuguese original, which was in turn an imitation of the Henri II. map, or of one very like it.

Münster had produced an edition of his *Cosmographia* at Basle in 1544, in German, with a map, facsimiles of which are given in the atlas of Santarem and (much reduced) in Lelewel. A copy of this 1544 edition is in the Lenox library.

One of the few exceptions of the Spanish custom of not printing navigators' charts is the *Arte de navegar* by Pedro de Medina, which first appeared in Spain at Valladolid in 1545, accompanied by a map, which showed the new world from Labrador to Peru. It is on folio xxii; while on xciii is a small spherical projection of the world, showing America vaguely drawn on the left. Medina was the official examiner of the pilots in the Spanish service, who sailed to the West Indies. The *Arte de navegar* is rare, and Muller puts the value of a copy at 200 florins and more. The *Carter-Brown Catalogue*, no. 137, shows a copy, and there is another in Harvard College library. Another edition appeared at Seville in 1563. The map here occupies folios vii. (verso) and viii. (recto), and is in part rubricated. (Leclerc, *Bibl. Americana*, 350 fr.) The book was translated into various languages; that into French being made by Nicolas di Nicolai, and published at Lyons in 1553, 1569, and 1576, and at Rouen in 1573. Nicolay gave a new map in 1553, which was repro-

duced imperfectly in the 1573 edition, which HARRISSE, *Cabots*, p. 240, mentions as an instance of Portuguese influence on French hydrography in the sixteenth century; but it also shows Nicolay's acquaintance with documents not known to Medina. The Italian version was made by V. Palentino de Corzutu, and appeared at Venice in 1554 and 1555. This 1555 Italian edition has a map on folio xxxiii (recto). Leclerc, *Bibl. Amer.*, no. 379 (40 francs); *Brinley Catalogue*, no. 43; *Carter-Brown Catalogue*, i. no. 204. The German by Coignet was published in 1576, and Frampton's English version came out in 1581. Kohl seems to be in error in saying that the earliest Spanish published map of America appeared in 1549 in Medina's *Libro de grandezas y cosas memorables de España*,—which had as he says an outline sketch of the new world in small compass, a similar representation appearing some years later (1554) in Gomara. The map in the *Libro* is the same as in the 1545 *Arte de navegar*, except that it is cut in two parts, and put on opposite pages, and the half showing America is eked out in a ruder way by an annexed block, which gives the rest of South America: this map is on folios 63 (verso) and 64 (recto); while the small spherical sketch to which Kohl refers is on another folio. This *Libro*, etc., is in Harvard College library. Kohl included the map under date 1549 in his Washington collection.

The 1546 edition of Honter's *Rudimenta Cosmographica*, which is a description of the world in verse, has an appendix of 14 leaves, containing an atlas, and including a representation of America, which is entitled "Universalis Cosmographia . . . Tiguri, J. H. V. E. [in a monogram] 1546." It is of a type common at a somewhat earlier period than we are now considering, representing "Parias" as North America, and long and narrow, and separated by a strait from South America. The appendix was also issued separately. Sabin's *Dictionary*, no. 32794; *Carter-Brown Catalogue*, no. 143; Muller, *Books on America*, (1872), no. 763; (1877) no. 1457; HARRISSE, *Bibl. Amer. Vet.*, no. 271. The map was repeated in 1548, 1549, 1552, 1558, 1560 editions, and perhaps in others; but in the 1561 edition the shape of the new continent is improved. The 1552 and 1560 editions are in Harvard College library. The "Honter's globe of 1542," which is given in facsimile in Stevens's *Notes*, has the same configuration. The series of minor atlases which was begun with the *Almanach marin* and its small wood-cuts in 1546, and thus represented in Honter's *Rudimenta* in the same year, was followed in 1588 by the *Epitome* of Ortelius, of which there were various editions; and later by Pierre Heyns' *Miroir du Monde*, changed by Zacharie Heyns to *Epitome du théâtre*. In 1597 came La Haye's *Trésor des Chartes*, engraved by Hondius, Wright, and Kœrius. Lelwel, *Géog. du Moyen Age*.

The map (1546) in Vadianus's *Epitome* of 1548 is reproduced in Santarem's *Atlas*. Cf. *Carter-Brown Catalogue*, i. no. 151. It makes South America an island.

A portolano marked *Joham Freire a fez crades* (?) 46, was formerly in the possession of Baron Taylor, when Santarem described it in his *Recherches sur la priorité de la découverte de la côte occidentale d'Afrique*, p. 127, and *Hist. de la Cosmographie*, iii. introd. It passed next into Libri's collection, and was sold in his 1859 sale, as per *Catalogue*, London, 1859, no. 827; and is described by HARRISSE in his *Cabots*, p. 220.

Copies: (1) *Library of Congress*. (2) *Astor Library*. (3) *Carter-Brown Library*. (4) *The Henry C. Murphy Library*. (5) *Samuel L. M. Barlow*.

(6) *Jules Marcou* (Cambridge). (7) *Charles H. Kalbfleisch*.

References: *Library of Congress Catalogue* (1872), p. 287; *Carter-Brown Catalogue*, no. 150; HARRISSE, *Bibl. Amer. Vet.*, no. 285; Stevens, *Hist. Coll.*, i. no. 1556; Brunet, *Manuel*, iv. 956; *Supplément*, ii. 331; *Walckenaer Catalogue*, no. 2259; Leclerc, *Bibl. Amer.* (1878) *Supplément*, no. 2910; *Huth Catalogue*, iv. 1200; Muller, *Books on America* (1877), no. 2624; *Dufossé, Americana*, nos. 2972, 4871, 6876; Graesse, *Trésor de livres*, v. 502; Kohl, *Discovery of Maine*, 225, 233; Santarem in *Bulletin de la Soc. Géog.*, mai, 1847; Fabricius, *Bibl. Graec.*, lib. iv. p. 413; Radelius, *Commentatio de Cl. Ptol.*, 69; Zurla, *Di Marco Polo*, ii. 363; *Notizie di Jacopi Gastaldi*, Torino, 1881; Castellani, *Catalogo delle più rare opere geografiche*, Roma, 1876.

Quaritch prices it at £ 3 10s. and £ 5; an American catalogue in 1883 priced it at \$ 15.

1552.

Title: *Geographia Claudii Ptolemaei Alexandrini, Libri viii, partim a Bilibaldo Pirckheymero translata ac commentario illustrati partim etiam Graecorum Antiquissimorumque exemplariorum collatione emendati atque in integrum restituti. His accesserunt Scholia, etc.* [five paragraphs, of which the last two are:]—

Tabulae novae quae hactenus in nulla Ptolemaica editione visa sunt, per Sebastianum Munsterum.

Geographia descriptionis compendium, in quo varii gentium ac regionum ritus, mores atque consuetudines per eundem explicantur.

Cum Regiae Majestatis Gratia & Privilegio ad sexennium.

At the end of the epistola is:—

Basiliae anno M.D.LII. Mense Martio. (Copied from the Whitney copy.)

Description: Folio. A portrait of Münster on the reverse of title. Münster's epistola, 2 leaves. Royal license, with a facsimile autograph, 1 leaf. De utilitate tabularum geographicarum, 3 leaves. One leaf blank. Index, with latitudes and longitudes, begins on *b*, ends on *l* 4. Index, pars secunda, ends on *p* 3 (not marked). One leaf blank.

Liber primus, begins on AA, ends on folio, following CC 4. One leaf blank. Liber ii. to viii., beginning DD, is paged 1 to 149; pp. 150-155 being "Dimensionis Canon." Then follow the maps, and next, pp. 157-195, Appendix Geographica.

Maps: Fifty-four double-page woodcuts, sometimes colored,—the same as in the 1540-42-45 editions.

Those showing American are:—

1. "Tipus universalis." The same as in the 1540 and 1545 editions; but recut, with slight changes in names. The northern region called Bacalhos and Islandia in the earlier maps are here without name. The island "Thyle" is now "Island." The inscription on South America reads, "America seu Insula Brasiliu."

2. "Novae insulae xxvi. Nova Tabula." The 54th map is the map, which Münster often used, showing both American continents. The designation on South America is inserted in German type, Die Nüw Welt, and on the reverse of the right-hand page is "Basileae ex officina Henrichi Petri, mense martio, anno M.D.LII."

3. The map of "Dania et Scondia" shows a part of Grönlund,—as in the earlier editions.

Copies: (1) *Library of Congress*. (2) *New York State Library*. (3) *Cornell University*, — formerly Charles Anthon's copy. (4) *The Henry C. Murphy Library*. (5) *Josiah D. Whitney*, — formerly in the Sobolewski library. (6) *Dr. E. B. O'Callaghan*, — sold with his library, in New York, in December, 1882.

References: *Library of Congress Catalogue* (1867), p. 332; Leclerc, *Bibl. Amer. Supplém.*, no. 2909 (100 francs); *Walchenaer Catalogue*, no. 2254; Muller, *Books on America* (1872), no. 2312 (18 Dutch florins); (1875) no. 3253 (32 florins); Dufossé, *Americana*, no. 9361 (70 francs); Weigel, *Catalog*, no. 1478 (36 marks); Hoffmann, *Lexicon bibliographicum*, iii. 501; Götz, *Merkw. d. Dresdn. Bibl.*, i. 318.

1555.

Title: [Same as the 1552 edition.]

Description: As in the 1552 edition.

Maps: Fifty-four as in the 1552 edition.

Copies:

References: Muller, *Books on America* (1875), no. 3254; (1877) no. 2626.

1559.

An edition without maps is cited by Santarem in *Bull. de la Soc. de Géog.*, 1837 (viii.), p. 176; and in his *Vespucius*, Childe's tr., p. 160.

1561.

Title: *La Geografia di Claudio Tolomeo Alessandrino, Nuovamente tradotta di Greco in Italiano, da Girolamo Ruscelli. . . con nuove & bellissime figure in istampe di rame, oue, altre alle xxvi Antiche di Tolomeo, se non son' aggiunte xxxvi altre delle moderne. Con la carta da navigare, & colmodo d' intenderla, & d' adoperarla. Aggiuntovi un pieno discorso di M. Giuseppe Moletto Matematico. . .* [Cross held by two hands stretched from clouds, and wound with a snake, and motto "Vincent"] *In Venetia, Appresso Vincenzo Valgrisi, M.D.LXI.* (Copied from the Boston Public Library copy.)

Description: Small quarto. Title and three preliminary leaves; text, pp. 1-358; Il Registro, one leaf; title, "Expositioni et introduzioni universali, di Girolamo Ruscelli sopra tutta la Geografia di Tolomeo. . . [same wood-cut as on title.]" In Venetia, M.D.LXI, — one leaf; text, 27 leaves; maps on double leaves, with descriptions on back; index of names, 24 leaves.

Maps: Engraved on copper, on double leaves, with text on the back. They are: Ptolemaei typus; orbis descriptio, — two hemispheres; Carta Marina nuova tavola; 18 maps; nuova tavola settentrionale; 36 maps (including Schonladia nuova), ending, "il fine di tutta la geografia di Tolomeo"; six American maps, — in all sixty-four maps.

Thomassy, *Les papes géographes*, p. 65, has pointed out how the maps "ont la plus grande analogie avec celles de la galerie géographique de Pie iv." Cf. Lelewel, ii. 170.

Thomassy also, p. 26, refers to a planisphere of Ruscelli, 1561, "inédit, conservé au musée de la Propagande."

The maps of interest in American study are these: I. "Orbis descriptio," — the western hemisphere.

Greenland is marked "Terra de lavorad," which is separated from Lapland by a narrow strait. Newfoundland and the St. Lawrence Gulf are brought out, but the St. Lawrence River takes the form of a long, narrow, winding strait, which sweeps round from the northwestern corner of the gulf, and comes out somewhere on the Maine coast. The western parts of North America are connected doubtfully with Asia, an uncertain coast being marked "Littus incognitum." South America has too great breadth in the southern part, where a part of the western coast is marked "Littus ignotum." Magellan's Strait cuts off a land with an undefined southern border.

To compare this with other general maps of the western world issued since the previous Italian edition of 1548, the most important of which were printed or made also in Italy:—

The general map by Gastaldi which accompanied the third volume of Ramusio's *Delle Navigazioni et Viaggi*, which was issued at Venice in 1556, is thought to have been made five or six years earlier (1550), and was repeated, as were the other maps of the volume, in the second issue of 1565. The coastline from Labrador to Florida has a uniform trend, except a depression nearly filled by a large island, which is all it shows of the geography of the St. Lawrence river and gulf, fifteen years after Cartier had mapped it. On the west, the coast ceases to be defined just north of the Californian peninsula. Cf. HARRISSE, *Cabots*, p. 236, who mentions another map of Gastaldi, which is very rare, and of which there are two copies in the Paris Library.

Of Ramusio, there is a portrait in the edition of *Il Viaggio di Giovan Leone*, printed at Venice in 1837. Tiraboschi's account of this famous collection of voyages is translated in Clarke's *Maritime Discovery*, p. x. Cf. *Carter-Brown Catalogue*, i. 195; HARRISSE, *Bibl. Amer. Vet.*, p. 223.

Dated in 1550 and 1553 are two portolanos signed by Pierre Desceliers, one of which is now in the British Museum, and the other is in Vienna. The names are said to be essentially Portuguese. On Labrador we read: *Terre de Jhan vaaz*, and *G. de manuel pinho*. The St. Lawrence is not named, but the Bay of Chaleur bears that designation. Cf. *Brit. Mus. Cat. of MSS.* no. 24065; HARRISSE, *Cabots*, 230; *Bull. de la soc. géog.*, September, 1852, and September, 1876.

A MS. parchment chart of the Atlantic, bearing this inscription, *Diego gutierrez Cosmographo de Su magd. me fizo en sevilla Año de 1550* is described in HARRISSE, *Cabots*, p. 232, who calls it a map much behind its date, and conceives it may possibly be a copy in essentials of the lost map of Chaves (1536). It is a question whether the present may be the work of the father or son of the same name. It is preserved in the Dépôt des Cartes de la Marine at Paris.

A map known to be by the younger Diego Gutierrez, *America sive quartæ orbis partis, nova et exactissima descriptio. Hiero Cock excudit* [Antwerp], 1562, in six folios, was sold by Edwin Tross to the British Museum, where it is numbered "map 6918-18." HARRISSE, *Cabots*, p. 152.

HARRISSE, *Cabots*, p. 238, puts, under *Circa 1553*, a fine parchment planisphere, neither signed nor dated, which is preserved in the Dépôt des Cartes de la Marine at Paris. It shows the English standard on Labrador (Greenland), the Portuguese on Nova Scotia, and the Spanish at Florida. The western coast is continuous from Cape Horn to California.

A map of André Thevet, in a projection of two hemispheres, dated 1554, is cited by D'AVEZAC, *Coup*

d'ail historique sur la projection des cartes, Paris, 1863, p. 73, and HARRISSE, *Cabots*, p. 251.

Bellero, the publisher of Antwerp, inserted in 1554 a small wood-cut map in an edition of Gomara's *Mexico*, and in his *Historia General de las Indias*, which appeared that year. This map did also service for some years in other Antwerp publications, — namely, the edition of Cieça de Leon's *De la Chronica del Peru*, of 1556; Darinel de Tirel's cartographical poem, *La Sphere des deux Mondes*, of 1555, and the Levinus Apollonius *De Peruvia*, etc., of 1565-67. The map is also sometimes found in Eden's *Decades of the Newe Worlde*, 1555. Cf. *Mapoteca Colombiana*, p. 2; *Huth Catalogue*, ii. 605; Stevens, *Bibl. Geog.*, no. 1987; O'Callaghan, *Catalogue*, no. 613; Rich, *Catalogue* (1832) no. 30; *Carter-Brown Catalogue*, i. nos. 201, 217. The Newfoundland coast is called "Bacallaos," with "C. Raso" at the southern end of it, but it is not an island, rather a peninsula, separated from Cape Breton, also part of the main, on the west by a deep bay, off whose mouth to the south lies the island of "S. Juan."

Gomara's *Historia General de las Indias*, was published, the second part in 1552, and the first part in the following year (1553). It was accompanied by a map of the Indies. Cf. *Carter-Brown Catalogue*, i. no. 177; *Sunderland Catalogue*, iii. 7575; Leclerc, *Bibl. Amer.*, nos. 243, 2779. Sabin, *Dictionary*, vii. p. 305, — a Gomara bibliography by J. Carson Brevoort. This first edition, which appeared at Saragossa and is now priced at 800 francs, was followed by the second at Medina in 1553, and a third at Saragossa in 1554, before it appeared at Antwerp, likewise in 1554, with the Bellero map. The map of the Spanish editions is exceedingly rare.

A map of the world by Framezini was engraved in 1554 by Julius de Musis.

In the collection of M. le Comte Doria at Venice, there is one of Baptista Agnese's atlases, "Baptista Agnese in Venezia al 1° Settembre 1553." Cf. HARRISSE, *Cabots*, p. 189; G. Berchet, *Portolani esistenti nelle principale biblioteche di Venezia*, 1866, p. 4.

An atlas of Baptista Agnese of 1554, preserved in the Biblioteca Marciana at Venice, was issued in photographic facsimile at Venice in 1881, under the editing of Professor Theobald Fischer of Kiel. It has three sheets of interest to the student of American cartography:—

No. 4. North America, south of the Penobscot and the Gulf of California, and the west coast of South America to 15° south; then blank till the region of Magellan's Straits is reached.

No. 5. East coast of North America from Labrador south; Central America, South America, all of east coast and west coast as in no. 4.

No. 33. The world much as in nos. 4 and 5.

The atlas is marked: *Baptista Agnese fecit* [sic] *Venetis anno Domini 1554 die 15 Julii*, as quoted in Zurla, *Di Marco Polo*, 1818, ii. 369; but the Marciana copy is inscribed *no* [sic] *Baptista palenese* [sic] *fecit venetiis anno domini 1554 die 20 Octobris* [sic]. HARRISSE, *Cabots*, p. 189. This fac-simile is in Harvard College Library.

The *Labanoff Catalogue*, 1823, no. 2067, gives another portolano of Agnese of 1555; and one marked *Hecho en Venecia en 1559 por Baptista Agnese* [sic] is given by HARRISSE, *Cabots*, p. 189, as in the collection of Perez Junquera at Madrid.

There is in the library of the Minister of War in Paris an elaborate portolano: *Cosmographie universelle selon les Navigateurs, Tant anciens Que modernes: Par Guillaume Le Testu pilote en La mer du ponent: De La ville Françoise de Grace*; and on a later leaf, "Ce livre fut acheve Par Guillaume Le

Testu, Le Cinquiesme Jour d'april 1555 Avant pasques." HARRISSE, *Cabots*, p. 242, speaks of it as an adaptation of a Portuguese atlas, with the addition of some French names. The northern regions of North America are called "Francia." There is a later map by Testu, dated May, 1566, preserved in the cartographical bureau of the Ministry of Foreign Affairs in Paris.

Wuttke in his *Geschichte der Erdkunde in the Jahresbericht of the "Verein für Erdkunde in Dresden,"* 1870 (pp. 62, 63), refers to and sketches the American maps in two atlases, associated with Gifalfo, preserved in the Palazzo Riccardi at Florence, and also to another atlas of about 1536-1566, resembling those in the Riccardi collection. One of them, dated 1550, connects the west coast of America with the southern coast of Zanga and China, and gives a deep gulf on the eastern coast of the United States, a region named "Terra di Licenciado." Further north is "Terra di Dertoni" [? Bertoni, i. e. Berton], and still farther north is "Otachil." Another of the maps gives a similar Asiatic prolongation to the California coast line, with a deep indented bay at the north, perhaps intended for Hudson's Bay. From the same source Wuttke gives three maps of the sixteenth century, showing both Americas. One shows the whole of South America and the east coast of North America, and puts "Ispagna nova" in the northeast, neighboring to "Terra di Bacalos" and "Terra di la S. Berton." A second shows North America, both coasts; but South America is left undrawn in the central parts of both coasts. A third completes the outline of South America, and carries the western coast of North America just above the "Marc Vermiglio" (Gulf of California). These several sketches are given in plates vi., vii., and ix. of the *Jahresbericht* (1870) of the Dresden "Verein für Erdkunde."

The map in the 1555 edition of Grynæus's *Novus Orbis*, with its recurrence to a state of geographical knowledge at least forty years earlier, can hardly be said to represent any reactionary views, but is rather but the heedless reproduction of the by-gone beliefs, shown in Münster's earlier map of 1532, already described in this bibliography. The only variation is in the different size of the geographical names. This map had already done service also in the 1537 edition.

The folding wood-cut map of the two Americas by Gaspar Vopelius is very rare, and has been produced in fac-simile from the British Museum copy through Harris's skill by Henry Stevens. It first appeared in Girava's *Dos Libros de Cosmographia*, published at Milan in 1556. The Harvard College copy lacks the map. The Carter-Brown copy (*Catalogue*, i. no. 209) has it.

The next edition of Girava, *La Cosmographia y Geographia*, appeared at Venice in 1570; but it is not certain that the map reappeared in it, though collectors insert sometimes the fac-simile of it. Stevens, *Hist. Coll.* no. 241. The Harvard College copy lacks it. Sabin, *Dictionary*, vii. no. 27,504, gives only this edition, and says it should have a map.

There is in the British Museum (*Catalogue of MS. maps*, 1844, vol. i. p. 27) a portolano marked "Diegus Homen, Cosmographus, fecit hoc opus anno salutis 1558," which has the following American maps:—

No. 4. The world.

No. 10. East coast of North America.

No. 11. South coast of North America and east coast of South America.

No. 12. North and east coast of South America.

Kohl's Washington collection shows a Diego Homen map of 1558.

Harrisse, *Cabots*, p. 243, cites also of this Portuguese map-maker, who was settled at Venice, the following:—

An atlas, apparently unfinished, resembling that in the British Museum, and preserved in the Bibliothèque Nationale at Paris, and dated about 1558.

An atlas in the Biblioteca Marciana, inscribed "Diegus Homem Cosmographus me fecit anno domini 1560."

Atlases of 1558 preserved in the library of the Arsenal at Venice; of 1559, in the Paris library; of 1561, in the library at Parma; of 1569, but not showing America; and of 1574, in the Paris library.

Harrisse, *Cabots*, p. 244, also cites a mappemonde of Andreas Homo dated 1559,—"Universa ac Navigabilis totius Terrarum Orbis Descriptio cum omnibus portibus ynsulis fluviiis. . . . Andreas Homo, Cosmographus Lusitanus me faciebat. Antwerpiae anno Millesimo Quingentesimo Quinquagesimo nono." This like the work of Homem was derived largely from Portuguese sources. It is preserved in the Department of the Ministry of Foreign Affairs at Paris.

Harrisse, *Cabots*, p. 245, also cites a fragment of a Spanish map, which shows a part of the American coast from Cape Breton south. It was recently discovered, and has been reproduced in Duro's *Arca de Noé*, Madrid, 1881, from the original in the library of the Academy of History at Madrid. Though of Spanish make, it is of Portuguese origin; and perhaps as late (1603) as Harrisse puts it, though Duro seems to consider it earlier.

A more accurate delineation of America than had appeared in any of Honter's earlier publications, appeared in 1561 in the Basle edition of his *De Cosmographia rudimentis*. Muller, *Books on America* (1877) no. 1459.

2. "Carta Marina nuova tavola." This is a reproduction of the chart no. 60 in the 1548 Ptolemy, and its view of the identity of North America and eastern Asia had the year before (1560) been taken by Paulo de Furlani, the Italian geographer, in his map of the world, which turned the California coast with a westerly trend, making it unite with the shores of Quinsai and Mangi. This Furlani map is included in the Kohl collection at Washington.

3. "Septentrionalium Partium nova tabula,"—a reproduction of the Zeni map, but varying from it in the extension of the sea north of Norway, while in the original a coast is drawn connecting Norway with Greenland, and marked "Mare et terre incognite."

This map had originally appeared three years before in a little book with the following title:—

De i commentariis del Viaggio in Persia di M. Caterino Zeno il K. & delle guerre fatte nell' Imperio Persiano, dal tempo di Ussuncassano in quà, libri due. Et dello scoprimento dell' Isole Frislanda, Eslanda, Engrouelanda, Estotilanda & Icaria, fatta sotto il Polo Artico, da due fratelli Zeni, libro uno. Con un disegno particolare di tutte le dette parte di Tramontana da lor scoperte. Venetia, 1558.

It purported to be printed and the map to be drawn from old family papers of the Zeni family, which recorded a visit to the northern parts of the Atlantic in 1380,—thought to be a mistake by R. H. Major for 1390. The text and the map introduced a large island called "Frislanda," which kept a place for a long time in the succeeding geographical views. Admiral Irminger has contended that this island was Iceland, and R. H. Major argues for the Farøe Islands, which might have been incorrectly conceived to be represented as a single large island instead of

a group, on the alleged original draft, used when in a decayed condition by the compiler of the printed map. (*Royal Geog. Soc. Journal*, 1879, vol. xlix. 398, 412). The region called "Estotiland," supposed to be on the American coast somewhere south of Greenland, also took a firm hold of the cartographical sense, and in later maps it designated sometimes the main land and sometimes an island off the coast. Eugène Beauvois in *Les Colonies Européennes du Markland e de l'Escoicland*, Nancy, 1877, and also in the *Compte-Rendu* of the Congrès des Américanistes, makes it include Eastern Maine, New Brunswick, and a part of Lower Canada. Santarem in the *Hist. de la Cartographie*, iii. 141, says that an island in the Baltic is called "Y Stotlandia" in Giovanni Lardo's mappemonde of 1448, preserved at Vicence.

The influence of the map on subsequent cartography will be referred to later in connection with Mercator's great map of 1569; the *Theatrum Orbis terrarum* of Ortelius, 1570; Lok's map of 1582, as given in Hakluyt's *Divers Voyages*; the maps in Wytfliet's Continuation of Ptolemy in 1597, and in the London edition of Linschoten, 1598.

The original *De i Commentarii* of 1558 has become a rare book worth, without the map, a guinea fifty years ago (Rich, *Catalogue* of 1832, no. 38), but now priced at 60 to 75 francs. (Leclerc, *Bibl. Amer.* no. 3002; Dufossé, *Americana*, no. 4,965; Beckford, 1883, Part iv. no. 644. Tross advertised a copy with the map in 1882 at 150 francs. The Carter-Brown copy has the genuine map (*Catalogue*, i. no. 226), but the Harvard College copy has it in facsimile. The *Murphy Catalogue*, nos. 2798, 2799, shows copies with the genuine map and with a facsimile map.

The map measures 12 × 15½ inches.

After the narrative had been given in the Ptolemy now under consideration, that of 1561, and again in the edition of 1562; and had been given further prominence in the second volume of Ramusio (1559, 1574, and 1583); in Hakluyt's third volume (1600); in Megiser's *Septentrio Novantiquas*, Leipsig, 1613 (Cf. *Murphy Catalogue*, no. 1655), and in Capel's *Vorstellungen des Norden*, Hamburg, 1676, the interest in it died out till revived in 1784 and 1786, by the publication in German and English of those respective dates of J. R. Forster's *Discoveries in the Northern Regions*, who urged belief in the story,—a view also taken in 1794 by Eggers, in his *True site of old East Greenland*, published at Kiel. Buache the geographer had also discussed the question in his *L'Île de Frislande*, in the papers of the Royal Academy of Sciences, 1784. A more important urging in behalf of the narrative took place when Cardinal Zurla published at Venice in 1808 his *Dissertazione intorno ai viaggi e scoperti settentrionali di Nicolo e Antonio Frat. Zeni*,—a subject again treated in his *Di Marco Polo e degli altri Viaggiatori Venciani piu illustri dissertazioni*, published also at Venice in 1818. This work was accompanied by a reproduction of the original map and by a modern map, upon which the supposed track of the discoverer was traced.

In 1831, Biddle, in his *Memoir of Sebastian Cabot*, maintained the theory of an imposition,—a view which was further enforced in 1835 by Zahrtmann in the *Royal Geog. Soc. Journal*, v. 102, and by George Folsom in the *North American Review*, July, 1838. In 1845, J. H. Beedsdorff discussed the subject in *Grönland's Historiske Mindesmaerker*. La Roquette furnished the discussion in Michaud's *Biographie Universelle*.

For nearly twenty years there was little attention paid to the Zeni narrative, till Mr. Major revived the discussion by the publication of it, with a translation

and commentary, through the auspices of the Hakluyt Society in 1873. In the same year (1873) he also printed a paper in the *Royal Geog. Soc. Journal*, on "The Lost Colony of Greenland," which likewise involved the question; and in the next year he epitomized his views in the *Proceedings* (October, 1874) of the Mass. Hist. Society,—each of his papers being accompanied by the map.

In Mr. Major's judgment, the good parts of the map are of the 14th century gathered by the ear on the spot; while the bad was of the 16th century, misapprehended from the ancient narrative by the young Zeno, who patched up the map and text. Major also claims that confirmation of the Zeno narrative is gained from Ivan Bardsen's chorography or sailing directions for reaching Greenland from Iceland, and that it enables the investigator to fix the lost colony at Cape Farewell. Sir H. C. Rawlinson comments on Major's views in his address before the Royal Geog. Society, printed in its *Journal*, 1873, p. clxxxvii.

Professor Konrad Maurer also, in the same year (1873), maintained that the Zeno of 1558 compiled the narrative from various sources.

The more recent discussions have been by De Simoni in the *Giornale Ligustico*, 1878; by Fr. Krarup of Copenhagen in the *Geografisk Tidsskrift*, ii. 145 (1878), in a paper called, "Zeniernes Rejse til Norden, et Tolkning Forsog," which is accompanied by two maps; by Paul Gaffarel in the *Revue de Géographie*, Oct. and Nov. 1880; by Ruge in his *Geschichte des Zeitalters der Entdeckungen*, published at Berlin in 1881, accompanied by the map; by A. E. Nordenskiöld, in his *Om bröderna Zenos resor och de äldsta Kartor öfver nordern*, Stockholm, 1883, in which there are facsimiles of the original map, and of that in the Ptolemy of 1561; and by Professor Dr. Steenstrup, in a paper, "Zeniernes Reiser i Norden," in the *Aabog* of the Royal Society of Northern Antiquaries, Copenhagen, 1883. In this last contribution is a reduction of the Zeno map. This paper has also a reproduction of the Zeno Frisland on a large scale, comparing it with a modern map of Iceland; and likewise it gives the northern parts of the 1558 map on a large scale. Dr. Steenstrup reviews the opinions of Major, Krarup, and Irminger.

Of the map Henry Stevens in his *Bibliotheca geographica*, no. 3,104, says that "if it be genuine, the most of its geography is false, while a part of it is remarkably accurate." For instance, the delineation of Greenland was far more accurate than any that had appeared up to 1558.

There are, besides those already mentioned, other facsimiles or reproductions of the original map, mostly reduced in size, in the *Annales des Voyages* of Malte Brun, who is a believer, as is Lelewel, in his *Géog. du Moyen Age*, ii. 169, and iii., where will be found "Tavola di navigare di Nicolo et Antonio Zeni et Les Cartes des régions septentrionales a l'époque de sa publication en 1558." Cf. also Vol. iv. 85. Again others in the *Carter-Brown Catalogue*, i. p. 211; Kohl's *Discovery of Maine*, p. 97; Bancroft's *Central America*, i. 81; Gay's *Pop. Hist. U. S.*, i. 84.

George E. Emery of Lynn issued in 1877 a facsimile of the map, with identifications of the localities.

Cf. also De Costa's *Northmen in Maine*; Asher's *Henry Hudson*, p. clxiv; Humboldt's *Examen Critique*, ii. 120; Gaffarel's *Etude sur l'Amérique avant Colomb*, etc.; Buache's *Frislande*.

In an anonymous sea-chart of perhaps the 15th century, in the Ambrosian library at Milan, there is an island "Fixlanda" in a position corresponding to

Frislandia of the Zeno chart. (*Studi biog. e bibliog. della soc. geog. ital.* ii. no. 400). In an anonymous Catalan chart of the end of the fifteenth century, the same island is called apparently "Frixlanda." (*Ibid.* no. 404).

4. "Schonlandia," the northwestern part of Europe. A long triangular island, "Thyle," represents Iceland. North of it a land partly surrounded by a "mare congelatum," and representing Greenland, bears two small circles (towns) named "Scalholdin" and "Holensis." The land extends towards Norway, from which it seems to be separated by a narrow strait. Much in the same way Ziegler in his *Schonlandia* (a part of his general work on Scandinavia and Palestine, printed at Strasbourg in 1532 and again in 1536) gives in his accompanying map in the northwest corner a land which he calls "Gronlandia," making "Terra Bacallaos" the eastern part of it.

5. "Tierra nova,"—South America, better shaped than in no. 1, and without any doubtful part of its coast. The Amazon is made to rise west of the mouth of the La Plata.

What we now know as the Falkland Islands are called by the name of Sanson, a navigator of whom nothing is known. They are called "Ys de Sansone" in the Cabot mappemonde of 1544. Thomassy, *Les Papes géographes*, p. 118, cites a map of unknown authorship, which gives the same designation to these islands. This last map is also of interest as showing what part of America was held at about this time to be cut off for Portugal by the demarcation line of Alexander VI.

6. "Nueva Hispania." Shows Florida and the isthmus on the east, and the peninsula of California on the west. The Gulf of California is called "Mar Vermeio." The Gulf of Mexico has four coast streams, one of which rises in the lake, where the City of Mexico is situated.

This may be compared with the map of Temistitan in Ramusio.

7. "Tierra nueva." The eastern coast of North America from Labrador to 34° north latitude. It is reproduced in Kohl, *Discovery of Maine*, p. 233, and in Lelewel's *Moyen Age*, p. 170. Cf. HARRISSE, *Cabots*, p. 237.

A hook probably representing Cape Cod is "C. de s. Maria;" Maine is "Larcadia;" New Brunswick is "Tierra de Nurumberg;" Newfoundland is broken into a group of islands which fill what stands for the Gulf of St. Lawrence; but the river of that name makes a strait which with a sweep to the northwest connects the gulf with what may stand for Passamaquoddy Bay. North of this strait is "Tierra del Bacalaos."

This map of Ruscelli bears a close resemblance to the map of New France given in Ramusio, iii. p. 425, which represents Newfoundland as a group of islands, and no further notices Cartier's discoveries than in giving a strait separating the group of islands from the main, which is bisected by a river, which cuts off a region that may stand for New Brunswick and Nova Scotia, which bears the name "La Nuova Francia," with "Terra de Nurbega" filling up the Bay of Fundy. A sketch of the Ramusio map is given in Kohl's *Discovery of Maine*, p. 227. It is ascribed to Jacomo di Gastaldi, and is supposed to have been made in 1550. Cf. HARRISSE, *Nowvelle France*, no. 292.

HARRISSE, *Nowvelle France*, no. 188, cites a map of the northeast coasts of North America of about the

middle of the century, preserved in the Musée Correr at Venice.

Kohl, *Discovery of Maine*, p. 317, quotes a map by Nicollo del Dolfinato, which appeared in *Navigazioni del Mondo nuovo*, Venice, 1560, and gives a sketch of the coast from Florida to Labrador.

Kohl, *Discovery of Maine*, p. 377, gives a sketch of the eastern coast of North America from Florida to Greenland, drawn after Homem's Portolano, already referred to. The coast from Maine south is very badly drawn; but one of the earliest plots of the Bay of Fundy is given. The Gulf of St. Lawrence spreads curiously westward through an archipelago into a northern sea. Homem was a Portuguese map-maker, and clearly a believer in a northwestern transit to India.

The plate in Ramusio, p. 447, called "Hochelaga" (Montreal) is a bird's-eye view of an Indian settlement. It is reproduced in Charton's *Voyageurs*, vol. iv.

8. "Brasil." The eastern part of South America, with the north at the right. Cf. the maps of "Brasil" in Ramusio, pp. 428, 431.

9. "Isola Cuba nova."

10. "Isola Spagnola nova."

The British Museum *MSS. Catalogue*, no. 27,303, also shows a chart of the American coast line by B. Lopez; and Kohl in his Washington Collection cites a Mercator map of 1555, and one by Fr. Camocio of 1560.

The maps of this edition of Ptolemy were repeated in the editions of 1562, 1564, and 1574.

Copies: (1) *Library of Congress*. (2) *Boston Public Library*, — shelf-mark, 4152.2. (3) *Carter-Brown Library*, — but not in its catalogue. (4) *The Henry C. Murphy Library*. (5) *J. Hammond Trumbull*.

References: Græsse, *Trésor de livres*, v. 502; *Library of Congress Catalogue* (1867), p. 332; Stevens, *Hist. Coll.*, i. no. 679; *Walckenaer Catalogue*, no. 2260; Dufossé, *Americana*, nos. 2973, 4372 (22 francs); Weigel, *Catalog*, no. 1482 (15 marks); Quaritch, *Catalogue* (1880), p. 1155; Kohl, *Discovery of Maine*, 297; Lelewel, *Géog. du Moyen Age*, ii. 170; *Murphy Catalogue*, no. 2063. A fine copy was priced in Italy in 1833 at 24 lire.

1562.

Title: *Geographia Cl. Ptolemæi Alexandrini olim a Bilibaldo Pirckheimherio trāslata, at nunc multis codicibus græcis collata, pluribusque in locis ad pristina veritatē redacta a Iosepho Moletio mathematico. . . . Adsumt lxxiiii Tabulæ, xxvii nempe antiquæ & reliquæ novæ, quæ totam continent terram, nostra, ac Ptolemæi ætati cognitam. Typisq; aeneis excussæ. Indices rerum quæ tractantur copiosissimi.* [Woodcut, — two hands sustaining a cross, with serpent wound about it, and the word "Vincent."] *Venetii, apud Vincentium Valgrisiū. MDLXII.* (Copied from the Harvard College copy.)

Description: Quarto. Title and three preliminary leaves, including dedication by Moletius to Cardinal Aloysius Cornelius, the last page blank. Liber primus, pp. 1-112; liber secundus, etc., pp. 1-286; 64 maps, of which six are of America, with descriptions; index capitum, etc., 31 unnumbered leaves; errorum recognitio, one page, reverse blank.

Maps: Same as in the 1561 edition.

Copies: (1) *Library of Congress*. (2) *Carter-Brown Library*. (3) *The Henry C. Murphy Library*. (4) *James Carson Brevoort*. (5) *Samuel L. M. Barlow*. (6) *Harvard College Library*, — lacks the maps.

References: *Library of Congress Catalogue* (1867), p. 332; *Carter-Brown Catalogue*, no. 239; Græsse, *Trésor de livres*, v. 502; *Walckenaer Catalogue*, no. 2255; *Sunderland Catalogue*, iv. 10,355; Stevens, *Hist. Coll.*, no. 1557; Muller, *Books on America* (1875), no. 3255; (1877) no. 2627; Weigel, *Catalogue*, no. 1479; *Murphy Catalogue*, no. 2059.

1564.

Title: *La Geografia di Claudio Tolomeo, Alessandrino, nuovamente tradotta di Greco in Italiano da Ieronimo Ruscelli. . . . Aggiuntovi un pieno discorso de M. Giuseppe Moletto Matematico. . . . Et con una nuova & copiosa Tavola de nomi antichi, dichiarati co i nomi moderni & con molte altre cose utilissime & necessarie, che ciascuno leggendo potrà conoscere. In Venetia Appresso Giordano Ziletti, al segno della Stella M.D.LXIIII.* (Copied from the Carter-Brown Catalogue.)

Description: Quarto. Title and five preliminary leaves; text, 358 pages; with 28 copper-plate maps, accompanied by descriptions.

Maps: Twenty-eight in number, copper plate, being the old part of the 1561 and 1562 editions.

Copies: (1) *Carter-Brown Library*. (2) *Samuel L. M. Barlow*, — bound with the modern part.

References: *Carter-Brown Catalogue*, no. 251, 252; Dufossé, *Americana*, nos. 2974, 4873, 7413.

1564.

Title: *Expositioni et Introductioni universali Di Ieronimo Ruscelli sopra tutta la Geografia di Tolomeo. Con xxxvi nuove Tavola in istampe di rame, così del mondo conosciuto da gli antichi, come del nuovo. Con la carta da nauicare, & con più altre cose intorno alla cosmografia, così per mare, come per terra. Con privilegio dell' Illustrissimo Senato Veneto, & d' altri Principi per anni xvi. In Venetia, Appresso Giordano Ziletti, al Segno della Stella, MDLXIIII.* (Copied from the Barlow copy.)

Description: Quarto. Title; 27 unnumbered leaves; maps with descriptions; "Discorso di M. Gioseppè F. Morando," 47 pages, numbered; index, 24 leaves.

Maps: Thirty-six copper-plate maps, with description, being the modern part of the maps in the 1561 and 1562 editions.

Copies: (1) *Carter-Brown Library*. (2) *S. L. M. Barlow*, — bound with the ancient part.

References: *Carter-Brown Catalogue*, i. no. 252.

. These two parts of the 1564 edition are often found together, as one work, counterparting, as far as the 64 maps go, the editions of 1561 and 1562.

1568.

An edition (Venice) is cited by Santarem in *Bull. de la soc. de Géog.*, 1837 (viii.), p. 176; and in his *Vespucius*, Childé's tr., p. 160.

1571.

According to Lelewel, *Géog. du Moyen Age*, ii. 209, Henricus Petrus of Basle gives the maps of Ptolemy engraved on wood, in his edition of Strabo.

1574.

Title: *La Geografia di Claudio Tolomeo, già tradotta di Greco in Italiano da M. Gier. Ruscelli & hora in questa nova edizione da M. Gio. Malombra riconetta & purgata. Con l'Esposizioni del Ruscelli. Tavola de' Nomi antichi dal Malombra. Et con un Discorso di Moletto. In Venetia, Giordano Ziletti, 1574.*

Description: Small quarto. Title and 7 preliminary leaves; Tavola, 32 leaves, the last blank; text, 350 pages; 27 maps, each on two leaves, with text; Expositioni, 28 leaves, the last blank; 37 maps; Discorso di Moletto, 65 pages.

Maps: The same as in the editions of 1561 and 1562.

Copies: (1) *Library of Congress*. (2) *Philadelphia Library*,—bequeathed by the Rev. Samuel Preston, of England, in 1804. (3) *Carter-Brown Library*,—though not in its Catalogue. (4) *The Henry C. Murphy Library*. (5) *Astor Library*. (6) *Trinity College*, Hartford, bought at the J. J. Cooke sale, 1883 (*Catalogue*, ii. no. 1947), for \$31.00.

References: *Library of Congress Catalogue* (1867), p. 332; Stevens, *Hist. Coll.*, no. 680; *Walckenaer Catalogue*, no. 2261; Dufossé, *Americana*, nos. 2975, 4874; *Philadelphia Library Catalogue*, p. 614; *Astor Library Catalogue*, p. 1525, where the date is wrongly given 1573; *Murphy Catalogue*, no. 2070.

1575.

An edition (Venice) with maps is cited by Santarem in *Bull. de la Soc. de Géog.*, 1837 (viii.), p. 176; and in his *Vespucius*, Childe's tr., p. 160.

1578.

Title: *Tabule Geographicae Claudii Ptolemei ad mentem auctoris restituta & emendatae Per Gerardum Mercatorem. [Ed. cura A. Mylii.]*

Colophon: *Coloniae Agrippinae typis Godefridi Kempensis. Anno Virginie partus, M.D.LXXXVIII.* (Copied from the *Huth Catalogue*.)

Description: Large folio. Engraved title and preface, 4 leaves; 2 leaves; A—C in twos; map of Egypt between M and N; index a—h in twos. Some of the copies have no "privilege."

Maps: The first edition with Mercator's series of maps, 29 in number, engraved on copper, and usually colored, confined to the old world.

Lelewel, *Géog. du Moyen Age*, ii. 190, indicates the discredit into which the Ptolemean system fell, after the advent of Mercator.

Copies: (1) *The Henry C. Murphy Library*. (2) *James Carson Brevoort*,—a copy which was originally Mercator's own, and has attached to it the only copy known of Mercator's double-heart projection of the map of the world, published by him in 1538, when twenty-eight years old. The volume has a MS. inscription on the title: "D. Lollo Aedama amico sumnoperere colendo Gerardus Mercator, dd."

References: Raemdonck, *Mercator*, 250; *Huth Catalogue*, iv. 1200; Quaritch, *Catalogue* (1880), 948 (35 sh.); Muller, *Books on America* (1875), no. 3256;

(1877) no. 2629; Charles P. Daly's *Early Cartography*, 35, 38; E. F. Hall's *Gerard Mercator*, in *Bulletin of the American Geog. Soc.* 1878, p. 173, with Mr. Brevoort's appendix; *Murphy Catalogue*, no. 2059.

1582.

An edition (Basle) is cited by Santarem in *Bull. de la Soc. de Géog.*, 1837 (viii.), p. 176.

1584.

Title: *Cl. Ptolemaei Alexandrini, Geographicae libri octo, recogniti iam et diligenter emendati cum tabulis geographicis ad mentem auctoris restitutis ac emendatis, per Gerardum Mercatorem, Illustriss. Ducis Cluensis etc Cosmographum Cum gratia & Privilegio sac Caes. Maies Cat. M.D.LXXXIV.*

Colophon: *Coloniae Agrippinae typis Godefridi Kempensis. Anno Virginie partus, M.D.LXXXVIII.* (Copied from the Boston Athenaeum Copy.)

Description: Large folio. Title engraved, including a vignette map of the Ptolemy world, one leaf; inscription to Abraham Ortelius by Arnoldus Mylius, dated "Coloniae Calendis Iulii, Anno D. 1583," one leaf; text, pp. 1-108; index, 15 leaves; one leaf blank; 28 maps, double-sheet, with text on back, with one (appendix) map; Mercator's Emendations, 4 leaves; index of names, 16 leaves, with colophon on reverse of the last.

Maps: Pertain to the old world only, being the same as in the 1578 edition.

Copies: (1) *Yale College Library*,—lacking the maps. (2) *Boston Athenaeum*,—bought in 1847; has a few MS. notes. (3) *Baltimore Mercantile Library*. (4) *The Henry C. Murphy Library*.

References: *Boston Athenaeum Catalogue*, p. 2439; *Walckenaer Catalogue*, no. 2256; Graesse, *Tresor de livres*, v. 502; Muller, *Books on America* (1877), no. 2628; Raemdonck, *Mercator*, 250; *Murphy Catalogue*, no. 2059.

1596.

Title: *Claudii Ptolemei Geographicae Universalium veteris tum novae absolutissimum opus duobus voluminibus distinctum libri octo; quorum primus illustratus est à Io. Antonio Magino Patavino. In secundo volumine insunt Ptolemei antiquae orbis tabulae xxvii; et tabulae xxxviii recentiores. . . . Auctore eodem I. A. Magino. Venetiis, apud Haeredes Simonis Galignani de Karera, CL.IV. XCVI.*

Description: Quarto, in two volumes. Title; five preliminary leaves; text, 184 and 47 pages; table, 19 leaves; "Pars secunda," title (with map on reverse), and including title, 292 leaves; table, 26 leaves, with 64 maps.

The description of America is in the 2d volume, folios 279-291.

This is the first edition of a series which includes other editions in 1597, 1608, and 1617.

Maps: Sixty-four in number, differing from those in the 1574 edition, and more particularly described (later) under the Cologne-Arnheim edition of 1597, as found in the Mass. Hist. Society's copy of that date.

Copies: (1) *Astor Library*. (2) *Carter-Brown Library*,—but not in the catalogue.

References: *Astor Library Catalogue*, p. 1525; Stevens, *Hist. Coll.*, i. no. 681.

1597.

Title: *Descriptionis Ptolemaicæ Augmentum. Sive Occidentis Notitia Brevis Commentario illustrata Studio et opera Cornelii Wytsflet Louaniensis. Lovanii Typis Johannis Bogardi Anno Domini M.D.XCVII.* (Copied from the Harvard College copy.)

Description: Folio. Engraved title and three preliminary leaves. [Part I.] text, pp. 1-92; map, "Utriusque hemispherii delineatio"; [Part II.] text, pp. 93-191 with 18 maps interspersed; list of maps, with errata below, 1 page. A second issue of the same year omits the errata.

Maps: They are entirely devoted to America, and constitute the earliest general American atlas. They are as follows:—

1. "Utriusque hemispherii delineatio." The western hemisphere shows the outline of the two Americas more accurately than in the 1561 edition. The unknown coast in the northwest of North America is now defined, with the straits of Anian separating it from Asia. California is still a peninsula. A circular inland sea, standing probably for Hudson's Bay, is marked "mar dulce," and is connected with the Arctic waters. "Groenlant" is an arctic island with "Groclant" west of it. The name and existence of Grocland seems to have come in by a misconception. Johannes Kolnus was sent out from Scandinavia to carry recruits to Greenland, which he called Grocland,—hence the confusion.

Labrador is "No. Francia," north of which is Hudson's straits without the bay, and beyond that, farther north is "Estotilant." The St. Lawrence Gulf stretches west into a river, but no lakes are beyond. "Norumbega" here first appears on a Ptolemy map. The northern continent is called "America sive India nova." South America is without general name. "Terra del Fuego" is extended into a large antarctic continent.

Except for the edition of 1596, repeated this year, 1597, and yet to be described, it was thirty-six years since there had been a new delineation in the Ptolemy series of the American continents, the maps of the 1561 edition serving during the interval, but various maps, MS. or published, had marked the progress of geographical knowledge; and some of the most significant may be briefly enumerated:—

1562. A map of Diego Guitierrez, cited by Kohl in his Washington collection.

1562. A carta nautica of Paolo Forlani, preserved in the National library at Paris, and given by Santarem.

1563. The atlas of Giorgio Sideri detto Cullapoda di Candia, in the Biblioteca Marciana at Venice.

1564. Baptista Agnese. Cf. *British Museum Cat. of MSS.*, no. 25442, with this title, *Baptista agnese fecit venetiis anno dñi 1564 die 25 mai*, belonging to an atlas of nine leaves; and Matkovic gives one of the same date as being in the Marciana. HARRISSE, *Cabots*, p. 189.

Beside the atlases of Agnese, which have been enumerated thus far in this bibliography under their dates, there are various undated and anonymous works, similar in manner to his, and which are attributed to him by HARRISSE, *Cabots*, p. 190, namely:—

1. Atlas in the Paris library, no. 18249.

2. Portolano, thought to have been ordered by Charles V. for his son Philippe, in the Spitzer collection at Paris, and described in Spitzer and Weiner's

Portulan de Charles-Quint donné à Philippe II, accompagné d'une notice explicative, Paris, 1875 (14 photographs).

3. Atlas in the library of the faculty of medicine at Montpellier. Cf. M. professor Cons in *Soc. languedocienne de géog.*, Montpellier, 1878, i. p. 432.

4. Portolano in royal library at Dresden, described by Kohl in *Discovery of Maine*, pp. 293, 316.

5. In the ducal library at Wolfenbüttel.

6. In the royal library at Munich. Kunstmann's *Atlas*, pl. vi. and vii.

7. In the library of Baron Edmond de Rothchild.

HARRISSE, *Cabots*, p. 191, points it out as a peculiarity of the Agnese maps that Greenland is always with him "Baccalos"; and that he indicates by dotted lines various routes of navigation through and around America, sometimes by Cape Horn "a la Maluche"; then by Panama, "el viago de peru"; then by the north of Canada, across an isthmus to the Pacific; but in the portolano of 1536, the passage is unbroken by land, and called "el viago de franza" (see Kohl, *Discovery of Maine*, 292), which HARRISSE thinks rather a reminiscence of Verrazano than of Cartier. Agnese seems not to have advanced in his views as he grew older, and preserved remarkably through all his series a geographical delineation of the same type. He still keeps Newfoundland a part of the main in 1564. His prototype, according to HARRISSE, *Cabots*, p. 193, was the Toreno map, published in 1534. The Spitzer map, above-mentioned, HARRISSE would date about 1542, and he draws from it the conclusion that at that date the Spanish geographers from whom Agnese borrowed, knew no more of the Newfoundland regions than was known in the time of Ribero and Chaves.

1565. The catalogue of the king's maps in the British Museum puts under 1562 a map entitled: *Universale Descrittione di tutta la Terra Cognosciuta da Paulo di Forlani*; but Thomassy (*Les Papes géographes*, p. 118) cites it as published at Venice in 1565, and says it strongly resembles Gastaldi's map, and is perhaps the same one credited to Forlani under 1570, as showing the recent discoveries in Canada. It is contained in the so-called Roman atlas of Lafreri, *Tavole moderne di Geografia*, Rome and Venice, 1554-1572. Cf. Manno and Promis, *Notizie di Jacopo Gastaldi*, 1881, p. 19; and HARRISSE, *Cabots*, p. 237. Kohl in his MS. Essay on the Cartography of the West Coast of North America, now in the library of the American Antiq. Soc., describes and gives a drawing of that part of a map published by "Paulo de Furlano," showing the straits of Anian, and says that Furlano is reputed to have received it in 1574 from a Spanish nobleman, Don Diego Hermano of Toledo. Kohl also gives the eastern coast from it in his collection at Washington.

1566. Ghillany's *Behaim*, p. 60, describes a brass globe by Johannes Prætorius, preserved in the Town Hall at Nuremberg. Wieser (*Magalhães-Strasse*, p. 70) refers to a similar globe of the same maker, dated 1568, and preserved in the Mathematical Salon at Dresden.

1566. An engraved map (23 × 21 inches) by Johannes Paulus Cimberlinus of Verona, showing North America as a part of Asia. Mr. J. Carson Brevoort has a copy. Cf. *Catalogue of the King's maps in the British Museum*.

1566. An engraved map (15½ × 10½ inches) by Zalterius of Bologna, issued at Venice, with the following title: "Il Disegno del scoperto della nova Franza il quale s'è haunto uti mamente dalla novissima navigatione de' Francezi in quell luogo: Nel quale si vedono tutti l' Isole, Porti, Capi et luoghi

fra terra che in quella sono. Venetiis æneis formis Bolognini Zulterii. Anno M.D.LXVI." It extended to the west coast, and showed the straits of Anian, then supposed to separate America from Asia, for the first time on any engraved map, according to Kohl in his manuscript preserved in the American Antiquarian Society's library, who gives a sketch of this portion of it. It was a few years later copied in part by Ortelius. Cf. HARRISSE, *Notes sur la Nouvelle France*, no. 295.

1566. A map of Des Liens preserved in the Bibliothèque Nationale at Paris.

1567. Santarem in the *Bull. de la Soc. Géog.* (1837), viii. p. 175, quotes an atlas in the library of Ternaux, which has a map of the new world. It is not mentioned in Ternaux's *Bibl. Américaine*.

1568. A general map of America, by Diego Homem, cited in Kohl's collection in Washington. The original is in the Royal library at Dresden.

1569. The great mappemonde of Gerard Mercator, the first in which he introduced his now well-known projection,—the only copy of which is preserved in the National library, Paris. Cf. D'AVEZAC'S "Comp d'œil historique sur la projection des cartes," in the *Bull. de la Soc. Géog.*, 1863; E. F. HALL'S "Gerard Mercator" in the *Bull. of the Amer. Geog. Soc.*, 1878; CHAS. P. DALY'S *Early Cartography*, p. 38.

A full size facsimile of the map is given in JOMARD'S *Monuments de la Géog.*, pl. xxi.; but it omits the legends given in squares on the map, but these are reproduced in LELEWEL'S *Géog. du Moyen Age*, i. pl. 5; also cf. i. p. xcvi. and ii. 181, 225. A reduction from Jomard's engraving is given by DALY in his *Early Cartography*, p. 38. Sections are given in Kohl's *Discovery of Maine*, p. 384; BROWN'S *Cape Breton*; and *Historical Mag.*, 1868.

The distinctive features of the map are a completed western coast to North America, with the Straits of Anian; the establishment of a type of delineation for Groenland, Groclant, and Labrador, which obtained for some years; the extension of the St. Lawrence inland, with no sign as yet of the great lakes; and Tierra del Fuego is expanded into a large circumpolar continent.

1570. There is in the Paris library a finely executed MS. map of a demi-elliptical projection called *Carte universelle*. *Description du monde avec le vrai traité des vents, faite par Jehan Cossin en Dieppe, marinier en lan 1570*, which gives a Portuguese nomenclature. HARRISSE, *Cabots*, p. 217.

1570, etc. Ortelius's *Theatrum orbis terrarum*, the exemplar of the modern general atlas; the contour given to America is a pretty close reproduction of Mercator; and it can be seen in Lelewel. It appears both in the mappemonde and in the separate map of America.

The bibliography of Ortelius is traced in the *Nar. and Crit. Hist. of America*, vol. iii. 34; iv. 369. There were various later editions.

1572. Porcacchi's *L'isole piu famosa del Mondo*, Venice. This first edition has two maps showing America. In one (p. 114) the western coast of North America is cut off by the edge of the plate, and the extreme eastern parts are called "Terra de Laborador," with an island lying off it. The outline of the whole is compact, without much detail about the northeastern parts. An indentation in the coast line, with a few islands in it, is all that marks the St. Lawrence gulf, and the river of that name does not appear.

In the other map (p. 109) an elliptical-shaped mappemonde shows a bit of Asia (Anian and Mangi) projecting from the left edge of the ellipse,

and separated by a strait from western America, whose general shape is much the same as in the other map. The most distinguishing interior feature is a lake, which flows into the Atlantic by a river midway down the eastern coast of North America.

Both maps have the amplified Tierra del Fuego continent, and reappear, unchanged in the edition of 1576. The later mentioned of the two maps is given in facsimile in STEVEN'S *Hist. and Geog. Notes*.

The 1576 edition (also Venice with colophon, 1575) shows additional maps, having 47 in all, and pages 157-184 are given to the American islands. Beside the map of the world and a maritime chart, "Carta da navigar" (p. 198), it has maps of Cuba, etc., and "la Città e isola Temistitan" (Mexico). There is a copy in Harvard College library, and in the collection of Charles Deane. Cf. STEVENS, *Hist. Coll.*, i. p. 82; *Carter-Brown Catalogue*, i. 309; MULLER, *Books on America* (1872), no. 1255.

There was still another edition of Porcacchi preceding Wytfliet, and issued at Venice in 1590. There is a copy of this edition in the Boston Public library. Cf. *Carter-Brown Catalogue*, i. no. 393; *Murphy Catalogue*, 2010.

1573. Lelewel, *Géog. du Moyen Age*, i. pl. 6, gives a sketch of MS. Spanish map, and describes it, vol. i. p. ci; ii. 114. He says it was taken from Spain to Warsaw, but disappeared later.

1573. A portolano of F. Vās Durado (*British Museum MSS.* 31317). See *post, sub anno*, 1580.

1574. A mappemonde of this date, engraved by Philippus Gallæus, "Tiipus orbis terrarum," is found in the *Enchiridion Philippi Gallæi per Hagonem Favolium*, a book of hexameters, published at Antwerp in 1585, in quarto. It has also a small map (p. 4), "Americæ sive novi orbis nova descriptio." Cf. LECLERC, *Bibliotheca Americana*, no. 206 (25 fr.).

1575. André Thevet's *La Cosmographie Universelle*, 2 vols., folio, Paris. This book was used by Wytfliet, and from it he copies an account of the river of Norumbega. Thevet claimed to have been on the coast in 1556; but he is accused of mendacity, by many writers, and not altogether without reason. He first published his *Les Singularitez de la France Antarctique* in 1557 at Paris (*Huth Catalogue*, iv. 1464; and a Boston sale catalogue, 1844, when a copy of this date, brought \$17), though the date is usually given 1558 (Ternaux, *Bibl. Amér.* no. 81; *Brimley Catalogue*, 150; *Carter-Brown Catalogue*, i. no. 225; *O'Callaghan Catalogue*, no. 2246; *Maissonneuve*, 1881, 400 francs; Quaritch, £7 7s.), for the first Paris and for the Antwerp edition. The Harvard College library has the Antwerp edition. There were later Italian (1561 and 1584) and English (1568) versions; and in 1878 it was reprinted at Paris with notes by P. Gaffarel.

It is Thevet's later book, the *Cosmographie*, which has the map of America, of chief interest in our study. It is engraved on wood, and follows for the most part that of Ortelius. North America is called "Terre-neuve." Le Clerc, *Bibl. Amer.*, no. 2652, gives a map of his entitled "Le nouveau monde découvert & illustre de nostre temps, Paris, G. Chaudière, 1581,"—which is called another production by HARRISSE, *Cabots*, p. 252, and Kohl says it belongs to the *France Antarctique*. Cf. *Carter-Brown Catalogue*, i. no. 599; Kohl, *Discovery of Maine*, p. 416; De Costa, *Northmen in Maine*; *Hist. Mag.* (by J. H. Trumbull), xvii. 239; *Mag. of Am. Hist.*, viii. 228 (Feb. 1882). Kohl includes this Thevet map in his Washington collection.

1575. Belleforest's *Cosmographia* has a map in which North America is called "America sive India nova"; and "Bresil" stands on South America.

1576. A heart-shaped mappemonde accompanied Sir Humphrey Gilbert's *Discourse of a Discoverie for a new passage to Cataia*, in which he recounts traditions of America having been sailed through, and his belief of its insular character. The map is very rare, but it is in the Lenox and Carter-Brown copies, and is given in reduced facsimile in the *Catalogue* (i. p. 258) of the latter library; and a facsimile of the American portion is given in the *Narrative and Critical History of America*, iii. ch. 6. The book brought \$255 in the Brinley sale, no. 31. The Straits of Anian are shown with Giapan, an island south of them, midway between the two coasts. The Gulf of California is not drawn, but there is a considerable forked inlet farther north. An Arctic sea is beyond 50° north. The continent ends eastward on what is perhaps the line of the Hudson; beyond this a stretch of islands, large and small, extending northeasterly, are called Canada, with a small island, Honchelay, north of it. Then an island, not named, but probably Newfoundland, with Baccalaoa, a small island east, and Labrador, a large island, northeast; and a still larger island, Grondlandia, north of Labrador. The northern continent is marked "America"; but Peru in the northwest corner is the only name on South America. There is the usual large Antarctic continent of this period.

1576. Wieser in his *Magalhães-Strasse*, p. 72, refers to Philip Apian's erdglobus in the Hof-bibliothek at Munich.

1578. George Best's *True discourse of the late voyage of discoverie for the finding of a passage to Cathaya by the northwest under the conduct of Martin Frobisher, Generall*, is a rare book, with a map indicating Frobisher's idea of the northern regions. The essential parts are given in facsimile in Collinson's *Martin Frobisher*, and in the *Narrative and Critical History of America*, iii. ch. 3. Cf. *Carter-Brown Catalogue*, i. no. 319. There is also a copy in the Lenox library. Kohl, *Maps mentioned in Hakluyt*, p. 18, traces the authorship of these charts (the other is of Frobisher's Straits only) to James Beare, Frobisher's principal surveyor.

1578. In the British Museum are various MS. maps by Joan Martines of Messina. Copies are in Kohl's Washington collection. Cf. *Cat. of MS. maps in Brit. Mus.*, i. p. 29; *Brit. Mus. MSS.*, no. 22018.

1578. Cellarius's *Speculum orbis terrarum*, Antwerp, impensis Gerardi de Jode. A folio atlas. Among the maps are a mappemonde, and one of South America with views of Mexico and Cusco. Weigel, *Catalogue* (1877), no. 36.

1580. Vaz Dourado's map given in facsimile in Kunstmann's *Atlas*. (See *ante*, sub anno 1573.)

1580. John Dee's *Boke of Idrography*, a MS. preserved in the British Museum.

1582. De la Popellinière's *Les Trois mondes*, published at Paris. It has a folding woodcut mappemonde, which closely resembles the original Ortelius map and that of Mercator of 1569. The third world is the great Antarctic continent, so common in maps of this period. *Carter-Brown Catalogue*, i. p. 292; *Huth Catalogue*, iv. 1169; Leclerc, *Bibl. Amer.* (650 fr.); Stevens, *Hist. Coll.*, i. 135. There is a copy with the map in Harvard College library.

1582. The British Museum catalogue of MSS., no. 27470, shows a map of the world by A. Millo; and in its *Catalogue of MS. maps* (1844, vol. i. no. 31) is a world-map by Martines.

1582. Hakluyt's *Divers Voyages*, which contains a map by Michael Lok, dedicated to Sir Philip Sidney, and bearing this date. It is represented on a segment of a disk, with the north pole for the apex, and the twentieth parallel of north latitude for the

outer margin. Starting with the Azores as the first meridian, it shows 30° east and 130° west. There is Groeland near the pole; Greenland southeast of it; Frisland, with its northern shore undefined, south of Greenland. Hudson's Straits are called Frobish-er's, with "Meta Incognita" north of it. Southern Labrador is "Cortereal," and an island off the northern part is "Laborador." The Penobscot is made to connect with the St. Lawrence, making the misshapen region east of it an island called "Norumbeza," the northern part of which is marked "Jac Cartier, 1535," and the southern part "J. Gabot, 1597." There is the usual hook in the coast line in about 40°, "C. Arenas," and a narrow isthmus separates the bay which it encloses from the broad "Mare de Verrazana, 1524," coming down from the northwest; its eastern shore, trending towards Hudson's Bay, is mostly undefined; its southern shore trends nearly west, and then becomes undefined, allowing the California peninsula to be hooked on the main by a narrow isthmus, with no coast above it. Florida is in its right place, and the point of Yucatan is just shown at the lower edge of the map.

Cf. for copies, *Narr. and Crit. Hist. of America*, iv. 44.

1583. One of the last editions of Reisch's *Margarita Philosophica*, published at Basle, has a map,—"Typus universalis Terræ, Juxta modernorum distinctionem et extensionem per Regna et Provincias." Leclerc, *Bibliotheca Amer.*, no. 2926 (45 fr.); Uricoechea, *Mapoteca Colombiana*, no. 15.

1584. The series of Dutch sea-atlases begins this year with Waghenær's.

1584. An enlarged edition of the *Cosmographia* of Apian and Gemma Frisius has a mappemonde.

1587. The map in Hakluyt's Paris edition of Peter Martyr.

1589. The map of Cornelius de Judæis, in his *Speculum orbis terræ* (1593).

1590. The large folding map of the world in the *Opusculum Geographicum* of Myritius, one of the latest to connect North America with Asia. It was published at Ingolstadt, in 1590, but the preface is dated in 1587.

1592. The map of Thomas Hood, given in Kunstmann's *Atlas*.

1592. Molineaux's globe preserved in the Middle Temple in London.

1593. The map in the *Historiarum Indicarum libri XVI.* of Maffei.

1594. The map of the world by Quadus.

1594. The map of Peter Plancius in the Dutch edition of Linschoten, published at Amsterdam, in 1596.

1596. DeBry's maps.

The other maps in the 1597 edition of Wytfliet are as follows:—

2. Chica sive Patagonica et Australis terra, 1597 (with the Straits of Magellan).
3. Chili provincia amplissima.
4. Plata, Americæ provincia.
5. Brasilia.
6. Peruani Regni descriptio, 1597.
7. Castilia aurifera cum vicinis provinciis (N. W. corner of South America).
8. Residuum continentis cum adjacentibus insulis (northern parts of South America).
9. Hispaniola insula.
10. Cuba insula et Jamaica.
11. Iucatana regio et Fondura.
12. Hispania nova (Mexico).
13. Granata nova et California.

References: *Carter-Brown Catalogue*, i. 536; *Sunderland Catalogue*, v. 13464; Muller, *Books on America* (1875), no. 3259; Dufossé, *Americana*, nos. 2976 (45 fr.), 4154, 4875, 8637.

1598.

Title: *Geografia cioè descrizione universale della terra, partita in due volumi, nel promo de' quali si contengono gli 8 libri della Geografia di Cl. Tolomeo, nuovamente rincontrati e corretti da G. Antonio Magini. Dal Latino nell' Italiano tradotta da Leonardo Cernoti. 2 parti in 1 vol. Con figure in legno e 64 tavole intagliate in rame da Girolamo Porro. Venetia. G. Brattista & G. G. Fratelli 1598 (with 1597 in the colophon).*

Description: Small folio, in two volumes. Two leaves; 83 pp.; 15 + 212 + 30 leaves; 64 maps.

Maps: Sixty-five, engraved by Girolamo Porro.

Copies: (1) *Philadelphia Library*. (2) *Library of Congress*. (3) *The Henry C. Murphy Library*.

References: *Philadelphia Library Catalogue*, p. 614; *Walckenaer Catalogue*, no. 2263; *Library of Congress Catalogue* (1867), p. 332; Stevens, *Hist. Coll. I.*, no. 682; Quaritch, *Catalogue* (1880), no. 11706; Weizel, *Catalogue*, 1877, no. 1485; *Carter-Brown Catalogue*, no. 533; *Murphy Catalogue*, no. 2078*.

1599.

Title: *Geografia di Claudio Tolomeo Alessandrino. Tradotto di Greco nell' Idioma Volgare Italiano da Girolamo Ruscelli, et hora nuovamente ampliata da Gioseffo Rosaccio. Con varie Annotazioni & Expositioni & Tavole di Rame, che nelli stampati altre volte non erano, havendo etandio poste à lor luoghi le Tavole vecchie, che prima confusamente giaceno. Et una Geographia universale del modestimo, separata da quella di Tolomeo; . . . Et una breve Descrizione di tutta la Tierra, distinta in quattro Libri. In Venetia, MDXCIX. Appresso gli Heredi di Melchior Sessa. (Copied from the *Carter-Brown Catalogue*.)*

Description: Quarto. Title; three preliminary leaves; table, 32 leaves; text, 42 + 186 + 144 leaves.

Maps: Three maps of the world and nine special maps of America, accompanying "Libre iv. tratt. del' America," in leaves 125-143 of the second part.

Copies: (1) *The Henry C. Murphy Library*. (2) *Carter-Brown Library*.

References: *Carter-Brown Catalogue*, i. 543; *Walckenaer Catalogue*, no. 2262; Muller, *Books on America* (1872), no. 2314; (1877) no. 2631 (9 Dutch florins); Dufossé, *Americana*, nos. 4155, 4876 (12 francs); Weigel, *Catalogue*, no. 1487 (18 marks); *Murphy Catalogue*, no. 2077.

1603.

Title: *Descriptionis Ptolemaicae Augmentum. Sive Occidentis notitia, Brevis Commentario illustrata, et hac secunda editione magna sui parte aucta. Duaci. Apud franciscum fabri Bibliopolam iuratum. Anno 1603. (Copied from the *Carter-Brown Catalogue*.)*

Description: Folio. Engraved title and 3 preliminary leaves; text, 1-191 pp., 19 maps.

Leclerc, *Bibl. Amér.*, 614, says it is the same edition as that of 1598, the title only being new, and a blank leaf being substituted for the one after the preface, containing "In C. Wytfliet epigramma." Cf. Muller, *Books on America*, 1877, no. 3575.

Maps: See edition of 1597.

Copies: (1) *Carter-Brown Library*. (2) *Philadelphia Library* (Loganian department). (3) *Library of Congress*.

References: *Carter-Brown Catalogue*, ii. no. 20; *Library of Congress Catalogue*, i. 2096; Rich (1832), *Catalogue*, no. 97, £1 10s. 0d.

1605.

Title: *Claudii Ptolemaei Alexandrini Geographiae libri octo Graecolatini Latini primum recogniti & emendati, cum tabulis geographicis ad mentem auctoris restitutis per Gerardum Mercatorem: Jam vero ad Graeca & Latina exemplaria à Petro Montano iterum recogniti, et pluribus locis castigati. . . Jodocus Hondius excudit sibi et Cornelio Nicolai, in cuius officina praestant, Fræcofurti. 1605. (Copied from the Mass. Historical Society's copy.)*

Description: Folio. Engraved title with border; five preliminary leaves, on the verso of the last a portrait of Mercator with a globe showing America; text, Latin and Greek in parallel columns, 215 pp.; one page blank; 28 maps with descriptions; indexes, 31 pp.

Maps: Relate to the old world only.

Copies: (1) *Mass. Historical Society*.

References: Leclerc, *Bibl. Amér.*, no. 478 (100 francs); Brunet, *Manuel*, iv. 950; *Mass. Hist. Soc. Catalogue*, ii. p. 284; *Walckenaer Catalogue*, no. 2231; Raemonck, *Mercator*, p. 253; Muller, *Books on America* (1872), no. 2315; (1875) no. 3260; (1877) no. 2632. *The Murphy Catalogue*, no. 2063, gives this title with the date 1624.

1607.

Title: *Histoire universelle des Indes Occidentales, Divisée en deux livres, faicte en Latin par Monsieur Wytfliet. Nouvellement traduicte. Où est traicté de leur descouverte, description et conqueste faicte tant par les Castillans que Portugais, ensemble de leurs moeurs, religion, gouvernemens, & lois. A Doyay. Chez Francois Fabri L'an 1607. (Copied from the *Carter-Brown Catalogue*.)*

Description: Engraved title; I,—4 preliminary leaves; 136 pp.; table, 3 leaves; 19 maps. II,— "Histoire universelle des Indes orientales": title and 6 preliminary leaves; text, 72 pp.; 4 maps. "La suite, etc." 1-72 pp. (mislabeled 66); table, 3 leaves.

Part I. is considerably changed from preceding texts, with omissions and additions.

Maps: Twenty-three relating to America.

Copies: (1) *Carter-Brown Library*. (2) *Dr. E. B. O'Callaghan*.

References: *Carter-Brown Catalogue*, ii. no. 59; *O'Callaghan Catalogue*, no. 2453; *Sunderland Catalogue*, v. 13465; Leclerc, *Bibl. Amér.*, 615 (40 fr.); Quaritch (1870), no. 14; Dufossé, *Americana*, no. 7518 (30 fr.).

1608.

Title: *Geographia Univerſa tum veteris, tum novae absolutiſſimum opus duobus voluminibus distinctum, . . . Libri octo: quorum primus qui præcepta ipsius facultatis omnia collectiur, commentariis uberrimis illustratus est à Ioan Antonio Magino Patavino. . .*

In secundo volumine insunt Claudii Ptolemai antiquæ orbis tabulæ xxxvii; et tabulæ xxxvii recentiores, etc. Auctore eodem Ioan. Ant. Magino. . . . 1608.

The title of "Pars secunda" has the imprint: *In cereberrima Agrippinensium Colonia excudebat Petrus Keschedt.* (Copied from the *Carter-Brown Catalogue.*)

Description: Quarto. Printed title in engraved border; 3 preliminary leaves; "Commentaria et annotationes," 47 pp.; text, 184 pp.; index, 19 leaves. "Pars secunda," title within engraved border, and map on the reverse; text, 292 leaves, including title; index, 28 leaves; 64 maps.

Maps: See edition of 1597.

Copies: (1) *Carter-Brown Library.* (2) *Harvard College Library.* Bought at the J. J. Cooke sale, 1883.

References: *Carter-Brown Catalogue*, ii. 1640; *Cooke Catalogue*, ii. no. 1948 (sold for \$20).

1611.

Title: *Histoire universelle des Indes occidentales et orientales, et de la conversion des Indiens. Divisée en trois Parties, par Cornille Wytfliet, & Anthoine Magin, & autres Historiens. Première partie. A Douay, Chez François Fabri, l'an 1611.* (Copied from the Harvard College copy.)

Description: Folio. Engraved frontispiece, with the title printed within it from type, 1 leaf; au lecteur, 1 leaf; sommaire, 2 leaves; text, 108 pp., with "Ordre des Cartes" on p. 108. "Seconde Partie,"—engraved title; tables, 8 leaves; to the reader, 1 leaf, with printer's device on the reverse; text, 66 pp. "La troisième partie,"—engraved title, "La suite de l'histoire des Indes orientales"; text, 54 pp.; table, 2 leaves, with printer's device on reverse of the last.

Maps: Twenty-two in number; of which two leaves contain four new maps, not in the previous French edition; viz., India, Japan, China, Philippine islands. "The first part," says Rich, "is a translation of the 1603 edition, with the same maps."

Copies: (1) *Carter-Brown Library.* (2) *Library of Congress.* (3) *Harvard College Library.* (4) *The H. C. Murphy Library.*

References: *Carter-Brown Catalogue*, ii. no. 122; *Murphy Catalogue*, no. 2782; *Library of Congress Catalogue*, ii. p. 2096; Rich, *Catalogue* (1832), no. 127 (£1 4s.); Quaritch (1880), no. 12542 (£2); Leclerc, *Bibl. Amer.*, 616; Dufossé, *Americana*, 2271 (Richelieu's copy, 60 fr.).

1617.

According to Græsse, *Trésor de livres*, v. 502, the Arnheim edition of 1597 was reproduced this year. See Muller (1877) no. 1963.

1618-19.

Title: A preliminary leaf has this: *Theatrum Geographiæ veteris, Duobus Tomis distinctum, Edente Petro Bertio Bevero. Christianissimæ Galliarum Regis Ludovici XIII. Cosmographo.*

An engraved title reads: *Theatri Geographiæ veteris Tomus Prior in quo Cl. Ptol. Alexandrini Geographiæ libri viii Græcè et Latine Graeca ad Codices Palatinos collata aucta et emendata sunt Latina*

in finitibus locis correctæ Opæ P. Bertii Christianissimæ Galliarum Regis Cosmographi.

Colophon: *Lugduni Bataavorum excudebat typis suis Isaacus Elsevirius, Sumptibus Iudoci Hondii. Anno Cl. l. C. XVIII.* (Copied from the Harvard College copy.)

Description: Large folio. Engraved title, showing full-length figures of Ptolemæus and Marinus; dedication, one leaf, which in some copies, has a portrait of Bertius on the reverse; præfatio, 5 leaves; sub-title, &c., and text, 1-253; blank, 254; title to Agathodæmon's ancient maps, with Mercator's descriptions, amended by Bertius; maps with descriptions on the recto of first leaf; viz., "Universalis tabula"; 10 of Europe; 4 of Africa, with a small appendix map to no. 3; 12 of Asia; sub-title of Mercator's Annotations, with portrait of Mercator (same as in the 1584 edition) on reverse; Mercator's præfatio and text, 3-28 pp. index, 20 leaves; "itineraria duo," 2 leaves.

"Tomus posterior": engraved title, "Amstelodami, Ex Officina Iudoci Hondij, Anno 1619; Itineraria duo," 1 leaf + 1-46 pp.; "Tabulæ Pertingarianæ," 4 double leaves, 2 on a sheet; "Præfatio," 2 leaves, "Prioris Schedæ explicatio" with map, 6 leaves; "Posterioris Schedæ," 2 leaves; "Abrahami Ortelii Geographiæ veteris tabulæ aliquot," 1 leaf; 14 maps, making with text, 34 leaves; "Ad lectorem," 1 leaf, with colophon on reverse.

Maps: Mercator's of the old world, revised and corrected by Pierre Bertius.

Copies: (1) *Harvard College Library.* It bears in Thomas Hollis's hand the following words: "A fine copy of a very rare work. It was purchased out of the library of the late Duke of Newcastle, and intended to be forwarded to Harvard College at Cambridge in New England. It cost four guineas. Ap. 14, 1769." (2) *The Henry C. Murphy Library.* (3) *Philadelphia Library.*—Loganian department.

References: Brunet, *Manuel*, iv. 951, with full collation; *Chatsworth Catalogue*, iii. p. 268; *Huth Catalogue*, iv. p. 1199; *Walckenaer Catalogue*, no. 2232; *Sunderland Catalogue*, iv. 10352; Raemdonck's *Mercator*, p. 253; *Murphy Catalogue*, no. 2062; D'Avezac, *Géographes grecs et Latins*, 28; Quaritch, *Catalogue* (1880), p. 2083.

1621.

Title: *Geografia cioè descrizione universale della terra partita in due volumi. Corretta da G. A. Magini. Del Latino nell' Italiano tradotta da L. Cernoti. Padova, Galignani, 1620-21.*

Description: Small folio.

Maps: Sixty-four, by G. Porro.

Copy: (1) *Astor Library.*

References: *Walckenaer Catalogue*, no. 2264.

1624.

See edition of 1605.

1695.

Title: *Tabulæ geographica orbis terrarum veteribus cognita. Franquezæ Apud Leonardum Strik. Projecti ad Rhenum. Franciscum Halmam. 1695.* (Copied from the *Murphy Catalogue.*)

Description : Mr. Murphy thus described it : " This appears to be a new edition of the maps of Ptolemy, restored by Mercator, and first printed at Cologne in 1578. Francker, where it was issued, is a small town near Leewarden, in Friesland, where there was formerly a university of some celebrity. The publication of Mercator was like this without any text, but it had notes, as may be inferred from Brunet's description of Hondius' edition of Ptolemy, 1618; and the maps were intended to show the design of Ptolemy better than appears in those of Agathodæmon, which were received up to that time." (*Murphy Catalogue*, no. 2064.) See *sub anno*, 1698.

Maps : Twenty-six in number.

Copies : (1) *The Henry C. Murphy Library*.

References : Lelewel, *Géog. du Moyen Age*, ii. 209; *Murphy Catalogue*, no. 2064.

1698.

Lelewel, *Géog. du Moyen Age*, ii. 209, cites, " Trajecti ad Rhenum, atlas Mercatoris per Franciscum Halma et Guillelmum Van de Water." See *sub anno*, 1695.

1704.

Lelewel, ii. 209, referring to the 1698 edition, says : " Le même reproduit."

1715.

Lelewel, ii. 209, cites : " Parisiis, variæ lectiones graecæ, in Chere : Bibliotheca coisliniana, olim sequeriana, sive manuscriptorum accurata descriptio, studio Bernardi de Montfaucon."

1730.

Title : *Orbis antiqui Tabulæ geographicæ secundum Ptolemæum cum ind. absolutiss.* Amsterdam, 1730.

1828.

Title : *Traité de géographie de Cl. Ptolémée, traduit du grec en français (texte en regard) par Halma.* Paris, 1828.

Description : Quarto.

References : *Walckenaer Catalogue*, no. 2258.

1832-1843.

Title : *Geographia libri octo, graecè et latine, ad codd. mss. fidem edidit Frid. Guil. Wülberg socio adjuncto Car. Henr. Frid. Grashofio Essendæ, Baedeker.* (Copied from Brunet.)

Description : Quarto. It was issued in parts, one book to each, but the publication closed with part. vi. in 1843. Brunet says the publication began in 1832.

Copy : (1) *Astor Library*.

References : Brunet, *Manuel*, iv. 951; *Astor Library Catalogue*, p. 1524; *Walckenaer Catalogue*, no. 2233.

1843.

Title : *Claudii Ptolemaei Geographia. Edidit Carolus Fridericus Augustus Nobbe. Editio stereotypa.* Lipsia, 1843.

Description : In two volumes, 18mo.

Copies : (1) *Harvard College Library*. (2) *The Henry C. Murphy Library*.

References : Brunet, *Manuel*, iv. 951; *Walckenaer Catalogue*, no. 2234.

1867.

Title : *Geographie de Ptolemée, reproduction photolithographique de manuscrit Grec du monastere de Vatopedi au Mont Athos, exécutée d'après les clichés obtenus sous la direction de M. Pierre de Sérvastanoff, précédée d'une introduction historique sur le Mont Athos, les monastères et les dépôts littéraires de la presqu'île sainte par Victor Langlois.* Paris, 1867.

Description : Folio. Text, 108 pp. with colored maps. The original manuscript was written about the end of the 12th or the beginning of the 13th century.

There are other manuscripts of Ptolemy mentioned in the *Catalogue of M.S. maps in the British Museum*, 1844, which shows four such, one of the 14th or beginning of the 15th century, another of 1409, and still another of 1450. One is described by De Murr in the *Memorab. Bibl. Publ. Norimb.*, pt. ii. p. 84, and in Raidellius, *Comment.*, etc., pp. 26, 33. Cf. *Archives des missions Scientifiques*, 2d series, iv. 279; Lelewel, *Géog. du Moyen Age*, ii. 121, and *Popular Science Monthly*, xvi.

Copies : (1) *Harvard College Library*. (2) *Carter-Brown Library*. (3) *The Henry C. Murphy Library*.

References : *Carter-Brown Catalogue*, i. no. 589; Brunet, *Manuel*, *Supplément*, ii. 332; *Murphy Catalogue*, no. 2060; Quaritch, *Catalogue* (1880) 1155; Jomard in the *Bulletin de la Soc. de Géog. de Paris* (1859), xvii. p. 422.

** The most considerable lists of editions of Ptolemy hitherto made have been in : Lelewel, *Géog. du Moyen Age*, ii. App. p. 207; Waltersdorf, *Repertorium*; and the Walckenaer, Sobolewski, and Murphy Catalogues.

Among the critical papers on the editions the first place is to be given to D' Avezac's article in the *Bulletin de la Soc. de Géographie*, 1862, pp. 293-320; and a paper on Hylacomylus in *Ibid.*, 1867. The earliest examination is in Raidell, *Commentatio critico-literaria de Claudii Ptolomæi Geographia, Norimbergæ, 1737.* (*Murphy Catalogue*, no. 2073). Cf. also A. H. L. Heeren, *Commentatio de fontibus geographicorum Ptolemaei.* Gottingæ, 1827, 4°; C. B. Mollweide, *Maßstabskunst*, in Von Sack's *Monatliche correspondenz*, 1805; H. Reusse, *Beitrag zur Geschichte der Landkarten*, in *Zeitschrift der Vereins für Landeskunde*, ii. 1840 (Hesse); A. Roscher, *Ptolemæus und die Handelstrassen in Afrika*, Gotha, 1867.

POSTSCRIPT.

During the printing of the preceding bibliography in the *Bulletin*, the following notes of transfers, other copies and prices, have been made:—

Edition of 1462: The Murphy copy (no. 2043) was bought by Mr. John Russell Bartlett for the Carter-Brown collection. The *Murphy Catalogue* gives Mr. Murphy's reasons for believing the date to be 1482.

Edition of 1475: The Murphy copy (no. 2044) was bought by the Lenox Library.

Edition of 1482: The Murphy copy (no. 2046) is now in the library of Cornell University. A copy was recently priced at 400 francs.

Edition of 1486: The Murphy copy (no. 2047) was bought by the Carter-Brown Library. Mr. Jas. F. Hunnewell of Charlestown, Mass., bought the imperfect Murphy copy (no. 3085) which he has perfected from another defective copy, bought of Col. Rush C. Hawkins of New York. This gives Mr. Hunnewell's copy only 31 maps, the last on a single leaf.

Edition of 1490: The Murphy copy (no. 2048) was bought by Lehigh University. A beautifully illuminated copy in the Sunderland sale (Part v. 13770) was bought by Quaritch, who has since held it at £600.

Edition of 1507: The Murphy copy (no. 2049) was bought by Mr. Whitney. Recently priced by Kosen-thal of Munich at 500 marks.

Edition of 1508: The Murphy copy (no. 2050) passed to Cornell University. The Cooke copy (*Catalogue*, ii. 1949) was bought by Yale College for \$90. A copy is owned by M. C. H. Kalbfleisch of New York.

Edition of 1511: The Murphy copy (no. 2051)

was bought by the American Geographical Society. Mr. Kalbfleisch has two copies. Recent prices,—220 and 350 marks.

Edition of 1513: The Murphy copy (no. 2052) was bought by the American Geographical Society. The Cooke copy (*Catalogue*, ii. 1950) was bought for \$90 by Trinity College, Hartford.

Edition of 1520: The Murphy copy (no. 2053) is now at Cornell University.

Edition of 1522: The Murphy copy (no. 2054) is now in the Lenox Library.

Edition of 1525: One Murphy copy (no. 2055) is now at Cornell University, and the other (no. 2056) is now at Lehigh University. Two copies in the Cooke sale (nos. 1951–1952) passed at \$31 and \$34 respectively to Trinity College and the American Antiquarian Society. A copy was recently sold in the Court sale in Paris (no. 288). Recent prices,—180 and 300 marks.

Edition of 1535: The Murphy copy (no. 2057) passed to Cornell University.

Edition of 1540: The Murphy copy (no. 2058) is now in the American Geographical Society's library. Mr. Charles Deane of Cambridge has a copy. Recent price,—160 marks.

Edition of 1541: Recent price,—150 marks.

Edition of 1542: Recent price,—150 marks.

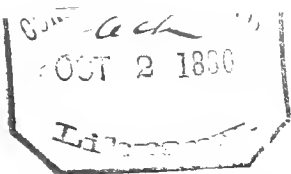
Edition of 1578: The Murphy copy (no. 2059) is now in the Carter-Brown Library.

Edition of 1618: The Murphy copy (no. 2062) is now in the Carter-Brown Library.

Edition of 1624: The Murphy copy (no. 2063) is now in the Carter-Brown Library.

Edition of 1695: The Murphy copy (no. 2064) is now in the Carter-Brown Library.

. Beside the copies above enumerated, President White of Cornell University has added to his collection the following editions: Strasburg, 1522; Basel, 1540 and 1551; Venice, 1562, 1574, 1598.



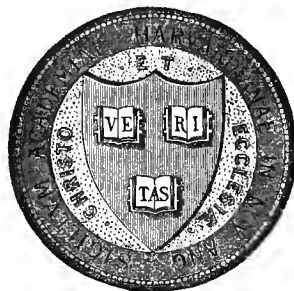
Library of Harvard University.

BIBLIOGRAPHICAL CONTRIBUTIONS.

EDITED BY JUSTIN WINSOR,

LIBRARIAN.

No. 19.



THE KOHL COLLECTION

OF

MAPS RELATING TO AMERICA.

By JUSTIN WINSOR.

CAMBRIDGE, MASS.:

Issued by the Library of Harvard University.

1886.

Already issued or in preparation :

A Star prefixed indicates they are not yet ready.

1. EDWARD S. HOLDEN. Index-Catalogue of Books and Memoirs on the Transits of Mercury.
2. JUSTIN WINSOR. Shakespeare's Poems: a Bibliography of the Earlier Editions.
3. CHARLES ELIOT NORTON. Principal books relating to the Life and Works of Michelangelo, with Notes.
4. JUSTIN WINSOR. Pietas et Gratulatio. An Inquiry into the authorship of the several pieces.
5. LIST OF APPARATUS in different Laboratories of the United States, available for Scientific Researches involving Accurate Measurements.
6. THE COLLECTION OF BOOKS AND AUTOGRAPHS, bequeathed to Harvard College Library, by the Honorable Charles Sumner.
7. WILLIAM C. LANE. The Dante Collections in the Harvard College and Boston Public Libraries.
8. CALENDAR of the Arthur Lee Manuscripts in Harvard College Library.
9. GEORGE LINCOLN GOODALE. The Floras of different countries.
10. JUSTIN WINSOR. Halliwelliana: a Bibliography of the Publications of James Orchard Halliwell-Phillips.
11. SAMUEL H. SCUDDER. The Entomological Libraries of the United States.
12. A LIST OF THE PUBLICATIONS of Harvard University and its Officers, 1870-1880.
13. SAMUEL H. SCUDDER. A Bibliography of Fossil Insects.
14. WILLIAM H. TILLINGHAST. Notes on the Historical Hydrography of the Handkerchief Shoal in the Bahamas.
15. J. D. WHITNEY. List of American Authors in Geology and Palæontology.
16. RICHARD BLISS. Classified Index to the Maps in Petermann's Geographische Mittheilungen. 1855-1881.
17. RICHARD BLISS. Classified Index to the Maps in the Royal Geographical Society's Publications. 1830-1883.
18. JUSTIN WINSOR. The Bibliography of Ptolemy's Geography.
19. JUSTIN WINSOR. The Kohl Collection of Early Maps.
20. WILLIAM C. LANE. Index to Recent Reference Lists, 1884-1885.
21. A LIST OF THE PUBLICATIONS of Harvard University and its Officers, 1880-1885.
- *22. JUSTIN WINSOR. Calendar of the Sparks Manuscripts in Harvard College Library.

THE KOHL COLLECTION OF EARLY MAPS.

BELONGING TO THE DEPARTMENT OF STATE, WASHINGTON, U.S.A.

By JUSTIN WINSOR, *Librarian of the University.*

*** This collection consists of well-executed hand-copies, with but occasional attempts at reproduction by fac-simile. The maps are contained in a series of portfolios, and each is mounted on a large sheet of card-board, with marginal tablets or other appendage of description. Little use of color is made in them. The names, legends, drawings, and devices are usually in black ink; the coast shadings and larger rivers in a blue wash. The maps vary in size.

Dr. John G. Kohl, a learned German, and a traveler of large experience, was born in Bremen, April 28, 1808, but spent many years in Dresden. He had from his early years pursued the study of historical geography. He came to this country in 1854, bringing copies which he had made of many maps relating to the progress of discovery in America,—some of them from old geographical and other printed treatises, and some from manuscripts of various kinds which he had found in European archives and libraries, public and private. Using an appropriation from the government, obtained in 1856 (\$6,000), he prepared this series of copies, as the foundation of an elaborate catalogue of the early maps of the American continent.

He also, using for illustration some of the same maps, prepared for the Coast Survey memoirs of the early cartography (eastern and western coasts of the present United States and of the Gulf of Mexico), which are described in the *Reports* of the Survey for 1855 and 1856. As the results of this study, Dr. Kohl later printed in the *Zeitschrift für Allgem. Erdkunde* (neue folge, xv), two papers on the "Älteste Geschichte der Entdeckung und Erforschung des Golfs von Mexico und der ihn umgebenden Küsten durch die Spanier von 1492 bis 1543," and he confessedly published this essay as a part of his greater work made for the United States Coast Survey. He likewise prepared, what is in good part an excerpt from this larger collection, a memoir on the early cartography of the northwest coast of North America. This manuscript was later in the possession of Professor Henry of the Smithsonian Institution, and was given by him to the American Antiquarian Society, in whose library at Worcester it now is. Cf. the *Proceedings* of that Society, Oct. 1867; Apr. 1869, and Apr. 1872.

Dr. Kohl failed to get from the government all the sanction which he wanted for the publication of his results, and so returned to Europe about 1858, leaving these collections behind him. At home he became the librarian of the city library of Bremen, and prepared and published various studies in his special department; the chief of which were, first,

a treatise (1861) on the earliest official maps of America,—*Die beiden ältesten General-karten von Amerika*,—which was accompanied by fac-similes on a large scale, excellently done, of the well-known maps of 1527 and 1529; and, second, a treatise on the early discovery and cartography of the region known as the Gulf of Maine,—with references, however, to some adjacent and even somewhat remote parts,—which he undertook at the invitation of the Historical Society of Maine. This book, which forms the first volume of the Documentary History of that State, published by that society, is called *A History of the Discovery of Maine*, and was published, partly at the cost of the State, in 1869. It remains the most important single contribution to the history of the discovery and cartography of our Eastern coast. It was illustrated with numerous sketch maps, mostly, if not entirely, excerpts from this collection, which were used by him under the advantage of greater knowledge and experience than he possessed when he formed the Washington collection. He also printed in 1861, at Bremen, a *Geschichte der Entdeckung Amerikas*, which was translated by R. R. Noel, and published in London in 1862, in two volumes, as a *Popular History of the Discovery of America from Columbus to Franklin*. A treatise on the history of the Gulf Stream was another fruit of these later labors.

Dr. Kohl has amply set forth his methods and purposes in his favorite study in his introduction to his *Discovery of Maine*, and he has explained the importance of old maps in historical study in a lecture *On the Plan of a Cartographical Depot for the History and Geography of the American Continent*, which he delivered at the Smithsonian Institution, and which is printed in its *Annual Report* for 1856, pp. 93-147. Another useful little treatise was also printed by him in Washington in 1857, entitled: *A Descriptive Catalogue of those maps, charts, and surveys, relating to America, which are mentioned in Vol. III. of Hakluyt's Great Work*. In this publication he speaks of having studied American maps "a little better than those of the other parts of the world," and calls his tract a part of *A General Catalogue of all the maps relating to America*,—which seems to have been the title intended for the work, which he hoped finally to publish under the patronage of the government. He also printed at this time in *The National Intelligencer* an interesting paper on "Lost maps."

Dr. Kohl died at Bremen, Oct. 28, 1878; and Mr. Charles Deane, who had known Kohl well during his sojourn in Cambridge, where he had done much of his work on American maps, using in part the

extensive collection of printed maps in the college library, — commemorated him in the following December in a notice before the Massachusetts Historical Society, which is printed in their *Proceedings*, vol. xvi. p. 381. Kohl's reputation as a student and expounder of comparative cartography was very high. Mr. Major, the eminent head of the map department in the British Museum, referring to Dr. Kohl's *Discovery of Maine*, spoke of it as "a most admirable work; and I am proud to think (he adds) that it was at my suggestion that the proposal was made to my learned friend to undertake so responsible and learned a task." Mr. Deane properly says of him: "After the death of Humboldt, he was unquestionably the most distinguished geographer in Europe." Mr. James Carson Brevoort, whose own knowledge of early American maps is so critical, accords him the highest place among his contemporaries; and Mr. Henry C. Murphy, by whose recent death scholarship in this field has lost a devotee of superior attainments, also bears testimony to the rich quality of his work.

After his return to Europe Dr. Kohl also published at Berlin in 1877 a *Geschichte der Entdeckungsreisen und Schifffahrten zur Magellan's-strasse und zu den ihr benachbarten Ländern und Meeren, mit acht Karten*, which had previously appeared in vol. xl. of the *Zeitschrift der Gesellschaft für Erdkunde in Berlin*. This also he considered a fragment of a greater work, which he proposed to call "*Geschichte der Entdeckung und Geographie der Neuen Welt*." He had prepared a history of the search for the northwest passage from Cortes to Franklin and McClure, which failing health prevented his putting to press. Some fragments of it were printed however in the periodical *Ausland*, published at Augsburg. A portrait of him, following a photograph, is engraved in the *Narrative and Critical History of America*, vol. iii. p. 209; and a memoir is printed in the *Beilage zur Allgemeinen Zeitung*, Augsburg, July 9, 1879.

This valuable collection had for twenty-five years remained practically unused in the custody of the Department of State at Washington. At the outbreak of the civil war it was temporarily in charge of the War Department, placed in an apartment occupied by troops, and barely escaped destruction. Scholars have occasionally referred to it, but they chiefly brought away from it a sense of its importance and of the want of a key to it. Being in communication with the librarian of that department, THEODORE F. DWIGHT, Esq., the preparation of an annotated calendar for the use of scholars was suggested; and on his representation of the subject to the Department permission was promptly obtained to have the maps sent to the College library at Cambridge to facilitate the preparation of such a Calendar. Dr. Kohl had arranged the maps on a system, from which it does not seem necessary to depart. Since he was engaged upon this collection a great advance has been made in the study of early American cartography. His comments, therefore, are not as useful now as formerly; and though constant use has been made of them, the editor has been obliged to exercise large discrimination, as well as to rectify Kohl's English, whenever it is quoted. Many important and useful maps have been brought to light or made public, which were not known to Dr. Kohl. In order to make the enumeration as useful as possible as a check-list for the student, notices of many of these additional maps have been inserted in their proper chronological order; but only such as Dr. Kohl contributes have had a marginal serial number given to them.

I.

THE WORLD BEFORE COLUMBUS.

1. A symbolic representation of the earth, heaven, and sun, from an Egyptian papyrus.

Dr. Kohl credits this to a hieroglyphic papyrus in the Cabinet des Médailles of the Bibliothèque Nationale in Paris, and to a reproduction given by Charton in his *Voyageurs anciens et modernes*.

At the bottom of the picture, as a representation of the earth, is an outstretched human figure, its body spotted with leaves. Heaven is in form of another figure, bent like an arch over the earth, with marks of stars covering its body. Among other symbols, the goddess Maou kneels beneath the arch, with weights on her arms, indicating the force of equilibrium. Outside the arch, on the left and on the right, two boats are represented as carrying the rising and setting sun.

2. Hindu representation of the world.

Taken from engravings which appeared in the *Journal of the Asiatic Society*, and in Charton's *Voyageurs anciens et modernes*.

It represents an expanded lotus-flower floating on the sea. A surrounding chain of mountains (not shown in the drawing) separates this from the great vacuum. The centre of the flower forms Mount Meru, the residence of the gods, and from this mountain rivers flow in all directions. The leaves represent the great peninsular regions of Asia.

3. A. D. 550. The universe after Cosmas.

Taken from a print in Charton's *Voyageurs anciens et modernes*.

A case, in shape like the tabernacle of Moses, gives in the upper portion the abode of the Creator. The earth is in the form of a high mountain, round which the sun revolves, and its base is washed by the ocean, arms of which like the Persian Gulf (Persicus), the Arabian Gulf (Arabicus), and the Mediterranean Sea (probably intended by Sinus Romanus) indent the foot of the mountain. The Caspian Sea (Caspus) is represented on the side of the mountain.

Cosmas was a geographer of the sixth century. Cf. Humboldt, *Examen critique*; Santarem's *Atlas*, pl. 3; C. P. Daly, Address on the *Hist. of Cartography*, p. 19.

4. viii. cent. The world.

A map, found by Libri in the library of Alby, belonging to a manuscript of the eighth century, and believed by Libri to be the most ancient cartographical monument known to us. Santarem in his *Histoire de la Cartographie*, etc., ii. 23 (*Atlas*, pl. 2), has analyzed the map, but Kohl, who does not say from what his own copy was made, points out that Santarem's description does not wholly agree with it.

The earth is a huge island of a horse-shoe shape, of wide arms but of narrower apex, lying upon an ocean, — a gulf of which, representing the Mediterranean sea, fills the space between the arms of the shoe.

Kohl points out that this geographer of Charlemagne's day did not know so much of the earth as was known in the time of Alexander the Great. Lelewel, vol. i., gives it, and calls it of the eighth century. Jomard, *Atlas* (pl. xiii.), gives a map resembling it, which he calls of the tenth century.

5. A. D. 787. Spanish map of the world.

Kohl says this drawing is based on a tracing, made by him from a copy, belonging to Santarem, of an original, which is a part of the Spanish manuscript commentary on the Apocalypse by an unknown writer, of about 787. Kohl does not say where the original is; but Santarem has included it in his *Atlas*, pl. 12.

The earth is a parallelogram with rounded corners, surrounded by the ocean, arms of which cut it like straight canals.

— ix. cent.

Santarem in his *Atlas* (pl. 3 and 10), gives two mappemondes of the ninth century; and Lelewel *Atlas* (pl. vii.) gives one from a MS. then preserved at Strasbourg, which had been previously published by Mone in the *Anzeiger für Kunde der deutschen Vorzeit*, 1836.

— x. cent.

Examples of this century, representing an Anglo-Saxon map and an Arabian map may be found in Vivien de St. Martin's *Atlas dressé pour l'Hist. de la Glog.*, Paris, 1874. The same are also given on a small scale in Daly's *Address on the History of Early Cartography*, pp. 20, 22. The Anglo-Saxon map is in the British Museum, and was first published by Strutt in his *Chronicle of England*, vol. ii., and was again published in the *Magazin pittoresque*, 1840, p. 267, by Santarem in 1842, and in Lelewel's *Atlas*, pl. vii. Santarem in his *Atlas* (pl. 3, 4, 6 and 7) also gives four specimens belonging to the tenth century.

6. xi. cent. The world.

After an engraved fac-simile in Naumann's *Catalogus librorum manuscriptorum, qui in bibliotheca senatoria civitatis Lipsiensis asservantur* (Grimæ, 1838), which in turn follows an original in a manuscript of the eleventh century, written in the convent of St. John in Magdeburg, and containing beside the maps, parts of Horace, Lucan and Salust. Cf. Santarem, *Hist. de la Cartographie*, ii. 93.

The earth is circular, surrounded by the ocean, and bisected by a canal-like water, above which is Asia, and below which, another canal at right angles to the first subdivides the lower half, with Europe on the left and Africa on the right.

There is a small sketch of it in the *Atlas* of St. Martin (pl. vi. no. 5). Santarem in his *Atlas* (pl. 8) also reproduces it; and Jomard, *Atlas* (pl. xiii.), gives it, but calls it of the tenth century. Lelewel, *Atlas* (pl. ix.), gives it as of the eleventh century.

— xi. cent.

Santarem, *Atlas*, pl. 4, 6, and 9, gives other maps of this century, the original of one being in the British Museum, and another is represented as "tiré de la Cosmographie d'Azaph."

The mappemonde de St. Sever found in a Spanish treatise by Beatus on the Apocalypse, preserved at Paris, is given in facsimile in the *Choix de Documents géographiques conservés à la Bibliothèque Nationale*, Paris, 1883. It is placed in the xth century, and accounts of it are found in Davezac's *Une digression géographique*, Paris, 1870, taken from *Le Bibliophile illustré*; and in E. Cortambert's *Trois des plus anciens monuments géographiques du moyen âge*, Paris, 1877, taken from the *Bull. de la soc. de géographie*.

Lelewel, *Atlas* (pl. ii.), gives a map of the Egyptian Abul Hassan ali Ibn Iunis (A. D. 1008), reconstructed; and, on the same plate, a map representing the habitable globe of this period; also (pl. v.) a reconstruction of a map by Abu Rihan (A. D. 1030); and (pl. vii.) a part of a map after a manuscript at St. Omer, which had been previously published by Mone in the *Anzeiger für Kunde der deutschen Vorzeit*, 1836.

7. A. D. 1063. The world.

The original of this is in a manuscript *Victorii Canon Paschalis*, preserved in the Sir Thomas Philipps' collection in England.

Kohl, referring to the delineation of a similar map, found at Dijon, given by Santarem, says that its configuration is an ordinary one in the eleventh century. In it we begin first to derive an intelligible idea of the views and aims of the early Portuguese navigators, whose explorations down the African coast harbingered the spirit which led Columbus to undertake his western voyage.

The earth is circular, surrounded by the ocean. A central belt constitutes the burnt zone. A southern belt is thought to be an inhabited region, by analogy, because the northern belt holds that portion of the world known to geographers. This northern belt gives in a rude way Europe and Asia, with northern Africa, as far south as the upper edge of the burnt zone, the island "Meroc" of the Nile lying at this point. On the burnt zone is the following inscription:—

"Zona terræ fusta quam undige sursum et de orsum circum fluit oceanus, qui a suis duabus extremitatibus oriente scilicet et occidente in septentrionem et austrum refunditur, qua refusione reumata id est ebullitiones maris fieri videntur."

8. xii. cent. The world.

The original is attached to a commentary on the Apocalypse preserved in the Royal library at Turin. It has been engraved in Pasini's catalogue of that library; and again in Santarem's *Atlas*. Kohl considers that though the Turin copy may be of the twelfth century, it is probably a copy of a much older original, and points out its resemblance to the Spanish map numbered 5 (above), though the present map is circular instead of squarish. It is figured by Daly and others as of the eighth century. Jomard, *Atlas* (pl. xiii.), gives it, and assigns it to the tenth century. Lelewel, *Atlas* (pl. ix.), calls it of the twelfth century.

9. xii. cent. The world.

The original is in the British Museum, and belongs to a manuscript concerning the Apocalypse of St. John, among the Harleian MSS no. 2799. The Museum authorities put it down under this century; and Kohl agrees with them.

The earth is circular surrounded by water; the Mediterranean, Black, and Red Seas are united in a T shaped canal, with the upright part connecting with the external ocean at the west.

— xii. cent.

Santarem in his *Atlas* (pl. 4, 5, 7, 10, 13, 15, and 30) gives other maps of this century, one of which is called "dressée par Henri, chanoine de Mayence"; another, "tirée d'un MS. Liber Guidonis"; a third from a manuscript of Lambertus in the library at Gand; and also a planisphere belonging to

a MS. of the *Imago Mundi*. The last two are also in the *Atlas* (pl. viii.; also xxv.) of Lelewel, who in his *Épilogue* to his *Géog. du Moyen Age* gives several eleventh and twelfth century "rudimenta latina geographorum"; and again in his *Atlas* (pl. viii.) gives one from a manuscript of A. D. 1119 of the bibliothèque de Bourgogne at Brussels.

— A. D. 1160.

There are sketches of Edrisi's map of the world in St. Martin's *Atlas* (pl. vi. no. 10), and in Daly's address, where it is dated 1154. Lelewel (vol. i. and *Atlas*, pl. x., xi., and xii.) gives it, and dates it 1154; and he also gives a "tabula rotunda Rogeriana restaurata."

It is circular, with a surrounding ocean, of which the Mediterranean and Indian seas are arms, running to the centre from the west and east respectively. The lakes which feed the Nile are prototypes of the great Albert and Victoria lakes of our day. The map was made by an Arabian geographer, Edrisi, by direction of King Roger of Sicily, and engraved on a round plate of silver, from which what are supposed to be copies exist in the National Library at Paris and in the Bodleian at Oxford. The latter copy is the most perfect and has been published by Vincent.

10. xiii. cent. The world by Mathew of Paris.

The original belongs to an undated manuscript, *Flores historiarum*, preserved among the Cottonian MSS. in the British Museum, and Kohl says it resembles another map of the same supposable age in the same collection, which I judge to be one of those figured in Santarem's *Atlas* (pl. 14). It is also in Lelewel. The map gives only the habitable part of the earth, mainly the basin of the Mediterranean Sea and its tributaries, but its features would not be recognized except for the names. It has the following inscription:—

"Sumatim facta est dispositio mappa mundi magistri Rob' de melkeleya et mappamundi de Waltham. Mappamundi domini regis quod est in camera sua apud westmonasterium figuratur in ordine Mathei de Parisio. Verissimum autem figuratur in eodem ordine, quod est quasi clamis extensa, talis est suma nostre partis habitabilis secundum philosophos sed quarta pars terre que est triangularis fere. Corpus enim terre sphericum est."

Santarem has given this map in his *Atlas*, pl. 14; and also others of the thirteenth century (pl. 4, 6, 7, 21), including a planisphere of Cecco d' Ascoli, another of Irish origin, and a mappamonde preserved in the library at Leipsic. Jomard in his *Atlas* (pl. xiii.) gives one preserved in the British Museum, and another called the Playfair map.

The well-known map of the world in the Hereford cathedral, an oval with Jerusalem in the centre, is also assigned to the thirteenth century. It is given in Jomard's *Atlas* (pl. xiv.).

11. A. D. 1283. The world by the Arabian, Kasvini.

The original is in the collection of the duke of Gotha.

A circle of high mountains encloses a circular ocean, within which as a circular island is the earth. The Arabian peninsula is in the centre, with the Red Sea like a sickle about it, the Persian Gulf forming with the China seas a parallelogram of water connecting with the external ocean. The Arabian names are translated into German.

A fac-simile of an Arabian sea-chart of the thirteenth century, preserved in the Ambrosian library at Milan, was issued by Ongania at Venice in 1881.

— xiv. cent.

Various other sea-charts, portolanos and planispheres of the fourteenth century have been brought before the public of late years. Sea-charts of Pietro Visconte di Genova, of 1311 and 1318, preserved respectively in the archives of Florence, and in the Museo civico of Venice were published in fac-simile in 1881 and 1875 by Ongania of Venice. That of 1318 is given also by Santarem, *Atlas*, pl. 33. Ongania also issued in 1881 an anonymous portolano of 1351, preserved in the Biblioteca Mediceo-Laurenziana at Florence (Lelewel also gives this); a planisphere of Giovanni da Carignano, from the archives of Florence; and an anonymous portolano from the Biblioteca Marciana. Jomard, in his *Atlas* (pl. xi.), gives a "Carte Marine" of the fourteenth century, the property of a Pisan family. A facsimile is included in *Choix de documents géographiques conservés à la Bibliothèque Nationale*, Paris, 1883. Jomard also gives (pl. xiii.) a map of near the end of the century. A map from the Chronicle of St. Denis (1364–1372) in the Ste. Geneviève library at Paris, is given in Santarem (pl. 16 and 17), Jomard (pl. xiii.), and Lelewel (pl. xxvi.).

Santarem also includes in his *Atlas* (pl. 3, 4, 8, 27, 36, 39, 60) two mappemondes, a planisphere belonging to a work of Guillaume de Tripoli (also in Lelewel, pl. xxvi.), a portolano from the Paris library, and a sea-chart from the archives of Luzerne.

Lelewel, *Atlas* (pl. xxviii.), gives an "imago mundi" as belonging to a manuscript (Prisciani) of the fourteenth century, in the library at Arras, which had been published in 1836 by Mone in the *Anzeiger für Kunde der deutschen Vorzeit*.

12. A. D. 1321. The world by Marino Sanuto.

The original is among the Tanner MSS. in the Bodleian library, and belongs to a treatise *Secreta fidelium crucis*.

The map is circular with the earth nearly filling its limits, the ocean forming the outer rim. The Mediterranean is tolerably drawn, as are the British islands and the Scandinavian peninsula.

Other maps by Sanuto are known, and they have a general likeness to each other. One of 1306 is given by Camden, — this has the Fortunate Islands, which are omitted in the map of 1321. Another of 1320 was published not wholly accurately by Bongars in 1611 in his *Gesta dei per Francos*, and this has been figured by St. Martin in his *Atlas*, pl. vi. no. 3. Santarem (*Atlas*, pl. 18, 19, 20) gives one from the library at Paris, another from the library at Brussels, and a third of 1321, not placed.

Lelewel (*Atlas*, pl. xxvii.) gives a Marino map of 1360, as from a Paris manuscript, *Chronicon*, which he says he perfected by collating the Brussels copy. Jomard, in his *Atlas* (pl. xiii.), gives a map preserved at Paris, as of the fourteenth century, which closely resembles this no. 12.

13. A. D. c. 1350. The world by Hygden.

The original is in the manuscript *Polychronicon* of Ranulphus Hygden, preserved in the British Museum, the work being a history of the world down to 1357.

The earth is an oval-like island, with pointed ends, east and west, — resting in an ocean of corre-

sponding shape with some islands in its western parts. Only two seas indent its outline,—the Red Sea and Persian Gulf. Paradise is the extreme eastern apex.

The map is examined by Santarem in his *Histoire*, iii. 82.

14. A. D. c. 1350. The world by Hygden.

The original is also in the manuscript named under no. 13.

Its delineation is much more elaborate. The shape is oval, with the longest diameter east and west. The surrounding ocean is filled with islands. The Mediterranean and Indian seas are rudely delineated. Cf. Santarem, *Hist. de la Cartographie*, iii. p. 3.

St. Martin (*Atlas*, pl. vi. no. 4) and Lelewel date it 1360. It is also included in Santarem's *Atlas* (pl. 9). It was figured in the *Magasin pittoresque* (1849), and from this Lelewel copied it, in his *Atlas* (pl. xxv.).

This copy of Kohl's reproduction is without notes; a second copy, 14*, has notes, and is put "about 1360."

15. A. D. 1367. Atlantic islands by the brothers Pizigani.

Dr. Kohl gives only the coasts of south-west Europe and north-western Africa, with the islands, which he identifies with the Canaries, Madeira, and the Azores,—considering it one of the earliest representations of these islands. He says he got his copy from Jomard; but does not consider it a good one.

The chart has since been given in full by Jomard (pl. x.) and Santarem (pl. 40). Ongania, of Venice, published in 1881 a fac-simile of a sea-chart of Francisco Pizigani, preserved in the Ambrosian library at Milan, which he dates 1373.

16. A. D. 1375. Catalan mappemonde.

This is preserved in the Bibliothèque Nationale at Paris; and it originally belonged to the library of Charles V. in the Louvre. It is "en langue romane catalane du xiv^e siècle."

It represents the known world from the Canaries to Catayo; but Dr. Kohl only gives the Canary Islands and the adjacent coast.

It is given in full with a Key in Sophus Ruge's *Geschichte des Zeitalters der Entdeckungen*, 1881; also in *Manuscrits de la Bibliothèque du Roi*, etc., Paris, vol. xiv. Part 2, p. 1; in Santarem's *Atlas* (pl. 31, 40); Lelewel's *Atlas* (pl. xxix.); St. Martin's *Atlas* (pl. vii. no. 1); and full size in facsimile in twelve sheets in *Choix de Documents géographiques conservés à la Bibl. Nat.*, Paris, 1883.

— xv. cent.

Santarem gives three mappemondes of this century without definite date,—one in the Musée Borghia (pl. 24), one in the Medici library at Florence (pl. 26), and the other as given by La Salle. Lelewel (pl. xxxv.) gives a map of the world as belonging to a MS. of Sallust at Geneva.

Ongania, at Venice, published in 1881, a fac-simile described as a "Planisfero del mondo conosciuto (in lingua catalana) di anonimo del xv secolo," from an original preserved in the Biblioteca nazionale at Florence.

— A. D. 1410.

A planisphere of Pierre d'Ailly is given in Santarem (pl. 15) and in Lelewel (pl. xxviii.). It is described in Santarem's *Hist. de la Cartographie*, iii., 301.

17. A. D. 14..? Juan da Napoli's Portolano.

This gives only the Atlantic islands from a portolano, which Kohl thinks represents the knowledge of a time not long after 1400. It belongs to an Atlas made in Venice, which is among the Egerton MSS. in the British Museum, whose catalogue, says Kohl, assigns the atlas to 1408. "Illa da Brazil" is represented off the coast of Ireland.

— A. D. 1417.

A map of the world belonging to a manuscript of Pomponius Mela in the library at Rheims.

The earth is within a circle, with the ocean surrounding it; and the Mediterranean, extending into the land, is as usual the prominent feature.

It is given by Jomard, *Atlas* (pl. xiii.), as of the fifteenth century; and is also in Santarem, *Atlas* (pl. 22); Lelewel, *Atlas* (pl. xxxiii.); St. Martin, *Atlas* (pl. vi. no. 6).

— A. D. 1424.

Santarem (pl. 41) gives a "Carte de la bibliothèque de Weimar."

— A. D. 1426.

A portolano of a Venetian hydrographer Giacomo Giraldi is preserved in the Biblioteca Marciana at Venice. It was reproduced at Venice in 1881 by Ongania.

18. A. D. 1436. The Atlantic Islands by Andrea Bianco.

19. A. D. 1436. The world by Andrea Bianco.

The original of no. 19 is preserved in the Biblioteca Marciana at Venice. Kohl implies that No. 18 is not taken from no. 19, but follows an independent sea-chart by Bianco, in which this portion of the large map was reproduced with the names "Antilia," etc. inserted, while they were omitted in the larger map,—at least Lelewel omits them, whose engraving Kohl follows. There is a "Carta nautica" by Bianco, dated 1448, preserved in the Biblioteca Ambrosiana at Milan, and of this a fac-simile was issued by Ongania at Venice in 1881.

Map no. 19 is given in full in Lelewel (pl. xxxii.) and in Santarem (pl. 23, 43); and other references are given in Winsor's *Bibliography of Ptolemy's Geography*, sub anno 1478.

Bianco's views are of interest in early American cartography from the deductions which some have drawn from the configuration of the islands "Antilia" and "De la man Satanaxio,"—two islands on its western verge,—that they represent Pre-Columbian discovery of South and North America. Humboldt, *Crit. Untersuchungen*, i. 413, 416, has discussed this question, and pointed out that an island "Antilia" had earlier appeared on a map of 1425, and Davezac finds much earlier references to such an island. Santarem (*Hist. de la Cartographie*, &c., iii. 366, has fully described Bianco's work.

— A. D. 1439.

Santarem (pl. 54) gives a "Carte de Gabriell de Valsequa, faite à Mallorcha en 1439."

— A. D. 1447.

This is described in a fac-simile issued by Ongania at Venice in 1881, as a "planisfero terrestre di forma ellittica di anonimo, in lingua latina, dell' anno 1447." The original is in the Biblioteca Nazionale at Florence.

Lelewel, in his *Epilogue*, p. 167, refers to a Genoese map in the Pitti Palace, which gives Greenland as "Grinlandia"; and it is also referred to by De Costa in the *Mag. of Amer. History*, Apr. 1883, p. 290, who confirms the date, 1447, as given by Lelewel, though Santarem, *Hist. de la Cartog.*, iii. p. xix. put it 1417.

20. A. D. 1448. The world by Giovanni Leardo.

Dr. Kohl gives this map, which is of the ordinary circular form, free from most of the names, which fill it; but Santarem (pl. 25) gives it with the names. The map is at Vicenza, where it was discovered forty or fifty years ago by M. Lazari. Cf. Santarem, *Hist. de la Cartographie, etc.*, iii. 398. A fac-simile of it was issued at Venice in 1880 by Ongania, with the date of 1452.

— A. D. C. 1450.

A fac-simile of this map preserved in the Museo Comunale at Mantua, issued at Venice by Ongania in 1881, describes it as a "Portolano membranaceo di anonimo dell' anno 1450 (circa)."

— A. D. 1455.

A sea-chart by Bartolomeus de Pareto, showing "Antillia," and an island farther west named "Roillo." I am not aware that any copy of it has been published. Cf. Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1478.

21. A. D. 1460. The world by Fra Mauro.

The original is preserved at Venice, in the Biblioteca Marciana.

It is circular, and the delineation of Asia is better than on preceding maps. Kohl says that Mauro knew the works of the Italian and Arabian geographers, and the marine charts of the Portuguese, which were given to him by Don Alonzo V.

Dr. Kohl speaks of the most exact copy made of it by order of Lord Hobart in 1804, and of the reproduction given by Vincent in *Commerce and Navigation of the Ancients*, 1797 and 1807. He thinks it was finished in 1460. It is given by Santarem (pl. 43-49) with the dates 1459 and 1460. Lelewel (pl. xxxiii.) places it 1457-59. Ruge in his *Geschichte des Zeitalters der Entdeckungen*, 1881, gives it and dates it 1459. A photographic fac-simile, issued at Venice in 1877, by Münster (Ongania), dates it 1457, and St. Martin (pl. vii. no. 3) follows this fac-simile.

— A. D. 1467-1471.

Marine charts of Grazioso Benincasa, given in Santarem (pl. 55-58).

— A. D. 1474.

The map which the Italian geographer, Toscanelli, sent to Columbus, and which influenced him, though

known to be preserved in Madrid in 1527, has not since been traced. Lelewel, *Géog. du Moyen Age*, ii. 130. An attempted restoration of it is given in St. Martin's *Atlas* (pl. ix.)

— A. D. 1475.

Mappemonde in the *Rudimentorum novitorum*, given by Santarem (pl. 28).

— A. D. 1476.

A portolano of Andreas Benincasa, given in St. Martin (pl. vii.), and in Lelewel (pl. xxxiv.). A much reduced sketch is given by Daly, p. 26.

It shows "Antilio" as a western island, and the "Isola de Braçill," west of Ireland.

— A. D. 1482.

The mappemonde, in the edition of Ptolemy published at Ulm, represents "Engroneland" as stretching from northwestern Europe, and it is said the map was made before 1471.

— A. D. 1486.

What is known as the Laon globe, though dated 1493, represents rather the knowledge of this time. It gives "Grolandia" as an island of the Norway coast, and has an island, "Antela." Davezac gives a projection of it in the *Bulletin de la Société de Géographie* (1860), xx. 417. Cf. also Davezac on the "Îles fantastiques" of the middle ages in the *Nouvelles Annales des Voyages*, 1845.

22. A. D. 1489. The Atlantic Islands by Cristofalo Soligo.

The original is preserved among the Egerton MSS. in the British Museum, in a portolano of different Venetian map-makers. There is no date, but 1489 is given in the Catalogue of the Museum as the approximate date of the collection.

Kohl thinks the chart based on that of Benincasa (1463), which he says is in his collection, but no copy of it is found here. "Antillia" is called "Y. de Sete Zidade," and is put west of the Azores, and this group as well as others includes various fabulous islands.

23. A. D. 1490. Portuguese map of the world.

The original is annexed to a Latin theological treatise (MS.) in the British Museum, and because it marks the extent of the Portuguese exploration of the African coast in 1489, and does not show the results of Vasco da Gama's voyage, Kohl places it about 1490. He says the language of the map is partly Portuguese and in part Italian, and his conclusion is that it is the work of an Italian settled in Lisbon. The western shore of Africa is given with approximate correctness, — much better than in any earlier map. A long peninsula at the northwest of Europe, though without name, seems to correspond to what is called in other maps Greenland.

I suppose it to be the map given "for the first time" in Santarem (pl. 50).

— A. D. 1492.

The Globe of Behaim, preserved at Nuremberg, represents the best knowledge at the time of the sailing of Columbus, though Peschel (*Zeitalters der Entdeckungen*, 1858, p. 90) allows Behaim to have

been but a mediocre cosmographer. Reproductions of it are given in Santarem (pl. 61) and in St. Martin (pl. ix.), and in other places mentioned in Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno, 1478. Lelewel, who gives it (pl. xl.), says in his *Epilogue*, p. 184, that the Behaim family caused it to be put in good order in 1825, after it had been long neglected in the town hall at Nuremberg; and that in 1847 a copy of it was made for the Dépôt Géographique at Paris.

24. A. D. 1493. Map in the Nuremberg Chronicle.

This is a sketch from the map in Hartmann Schedel's *Liber Chronicarum*, usually known as the "Nuremberg Chronicle," having been published in that city.

The map preserves the old idea of the connection of Africa and Asia enclosing the Indian Sea.

25. A. D. 1497. Vasco da Gama's route.

Dr. Kohl includes this modern map, in which Da Gama's route to and from India by the Cape of Good Hope is pricked, to show how near he came to the South American coast, which Cabral, on a similar voyage, discovered three years later. The route is that established by the studies of Diogo Hopke and Costa Paiva.

— A. D. 1497.

A carta nautica of Conte Freducci, preserved at Wolfenbüttel, shows an "isola de Braçil." Cf. Lelewel, ii. 106; *Studi biog. e bibliog. della Soc. geog. italiana*, ii. 94; Santarem, in *Bull. de la Soc. géog. de Paris*, 1847, i. p. 312.

II.

THE TWO AMERICAS.

26, 27. A. D. 1500. Juan de la Cosa.

These duplicate maps represent the American parts of the La Cosa map now at Madrid. Kohl copies the representation of it given in connection with Humboldt's essay appended to Ghillany's *Ritter Martin Behaim*. (1853). Humboldt had earlier given the American parts in his *Examen Critique*, vol. v. (1839), but not very accurately. The best reproduction of the whole map is in Jomard's *Atlas*, pl. 16, and there are reductions from Jomard in Stevens's *Hist. and Geog. Notes*, 1869, pl. 1, and (with references) in the *Narr. and Crit. Hist. of America*, iii. p. 8. Other reproductions of the American part are in Lelewel's *Atlas*, no. 41, and in De la Sagra's *Cuba*. Cf. Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1508; the App. to Irving's *Columbus* and Enrique de Leguina's *Juan de la Cosa, Estudio Biográfico*, Madrid, 1877.

— A. D. 1501-1505.

A Portuguese chart of this date is supposed to be given in the map of the 1513 Ptolemy (see *post*, no. 32). Another in that preserved at Munich, which is given by Kunstmann in his *Atlas*, pl. iii., and by Kohl in his *Discovery of Maine*, p. 174. A chart resembling these two has been found in the possession of the Este family in Modena, on which the exact date of 1502 is given. It is described, with a facsimile, in HARRISSE'S *Cortereals*; and is also referred to in his *Cabots*, pp. 143, 158. The map as-

cribed to Pedro Reinel is also at Munich, and is likewise given by Kunstmann; but there is strong ground for suspecting it to be of considerably earlier date, perhaps antedating Cabot. Cf. references in Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1508.

Peter Martyr mentions a chart said to have been made for the Portuguese by Vesputius, which is not now known. Santarem has pointed out that the narrative of Corsal in Ramusio shows that charts were often sent from Portugal during these years to the Portuguese ambassador in Rome.

28. A. D. 1508. Ruysch in the Ptolemy of 1508.

Dr. Kohl refers to Humboldt's introduction to Ghillany's *Martin Behaim*; Walckenaer's *Recherches géographiques sur l'Intérieur de l'Afrique septentrionale*, and the *Biographie Universelle*, vi. 207.

There are reproductions of the map in Santarem, Lelewel, and in various other places named in Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1508. An original copy of the map is in Harvard College library. A section of the northern part is given in the *Journal of the Amer. Geog. Society*, vol. xii. p. 179. Cf. Stevens's *Bibliotheca Geog.*, no. 3058. It is thought that Ruysch used Columbus's draughts.

HARRISSE, *Notes on Columbus*, p. 56, thinks Ruysch's map is referred to by Johannes Trithemius in a letter, Aug. 12, 1507 (published in his *Epistolae Familiares*, 1536), in which he complains that he could not afford to purchase a map of the new world for forty florins.

— A. D. 1510-1512.

The Lenox globe, preserved in the Lenox library in New York, of which drawings are given in the *Mag. of Amer. Hist.*, Sept. 1879; *Ency. Brit.*, x, 681, etc.; and *Narr. and Crit. Hist. of America*, iii. p. 212.

— A. D. 1511.

A carta nautica of Salvat de Pilestrina of Majorca, preserved in the archives of the Ministry of War in Munich. Cf. Kunstmann, *Die Entdeckung Amerikas*, p. 129; Thomas, *Der Periplus des Pont. Eux.*, p. 7; and Winsor's *Bibliog. of Ptolemy's Geography*, sub anno 1508.

29, 30. A. D. 1511. In Sylvanus's Ptolemy.

No. 29 is the western half of this cordiform map; no. 30 gives the whole map, with minor errors corrected in pencil by Dr. Kohl.

The map is given in Lelewel (pl. xlv), and there are various references in Winsor's *Bibliog. of Ptolemy's Geography*, sub anno 1511. Kohl's drawings are taken from the Grenville copy on vellum in the British Museum; and he points out how the contour of South America is the same as that of the Ruysch map, while Cuba is completed as an island, and Greenland is restored to its earlier connection with Europe. Cf. Zurla, *Marco Polo*, ii. 358.

— A. D. 1511.

The map described by D'Avezac in his *Atlas hydrographique de 1511 du génois Vesconte de Maggiolo*, Paris, 1871, originally in *Bulletin de la Soc. Géog. de Paris*, 1870, p. 404. The original is in the collection of Don Riccardo Heredia in Madrid, having been bought by him at public sale in Paris in 1870 for 1500 francs. It is inscribed "Vesconte de Maiolo

civis Janne composuy in Neapoles de anno 1511, die xx January." It shows America from Labrador to Cape St. Augustine. Cf. Desimoni in *Giornale Liturgico*, ii. 52; *Studi Biog. e Bibliog. della Soc. geog. ital.*, ii. p. 106, and references to the cartographical work of Maggiolo (Maiolo) in Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1511.

— A. D. 1511.

Peter Martyr's map of the West India islands and adjacent coast was published with his first Decade, *Legatio Babylonica*, at Seville, and has been reproduced in various places. Cf. Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1513. Few copies of the original are known. HARRISSE is inclined to think that it does not belong to Peter Martyr's book, because three copies in the original vellum, which he has examined, do not have it. Cf. Stevens, *Bibl. Geog.*, no. 2954. Brevoort, *Verrazano*, p. 102, thinks its publication may have been offensive to the Spanish government, which might consequently have suppressed it. The later editions of 1516 and 1530 have no map. Brevoort adds that no official map of America was printed in Spain till 1790. The Cabot map of 1544 seems to have been compiled from Spanish sources; but it is not known where it was published; and that but a single copy is saved to us may also signify that it was suppressed by Spanish influence. The map of Medina in 1545 was a mere sketch.

31. A. D. 1512. **Stobnicza.**

A facsimile of the rare map belonging to Johannes de Stobnicza's *Introductio in Claudii Ptholomei Cosmographia*, Cracovia, 1512. Kohl used the copy in the Munich library. There are other copies now known, and for notes of these, and other references, see Winsor's *Bibliog. of Ptolemy's Geography*, sub anno 1512. There are facsimiles of the map in whole or in part in the *Carter-Brown Catalogue, Narr. and Crit. Hist. of America*, iii. 13; and in Daly's Address on *Early Cartography*, p. 32.

— A. D. 1512-14.

A sketch of the northern and southern hemispheres, of four gores each, in the Queen's collection at Windsor, and ascribed by R. H. Major, in the *Archaologia*, vol. xi., to Leonardo da Vinci, and placed under 1512-1514. Wieser, in his *Magalhães-Strasse*, gives it a modern hemispherical projection, and puts it in 1515-1516. It has lately been asserted that it is not the work of Da Vinci. Cf. J. P. Richter's *Da Vinci*.

32. A. D. 1513. **In the Strasbourg Edition of Ptolemy.**

This is the "Tabula Terre nove" of this edition, and Kohl points out that the names on the South American coast are carried no farther west than the extent of the voyage of Hojeda in 1499, and no farther south than Vesputius went in 1503, while the connection, which is made between the northern and southern continents, must have been based on reports, without particulars.

This map, supposed to have been in some way connected with Columbus's own charts is often called "the admiral's map," and its connection with Cabral and Vesputius has also been supposed. The maker of the map was Waldseemüller or Hylacomylus, and Lelewel (ii. 143) gives reasons for believing that it had been engraved and sold as early as 1507, having

been made at the expense of Duke Rene II.; but the plate does not seem to have been used in any book till in this 1513 edition of Ptolemy. Lelewel supposes it to be in effect a Portuguese chart made in 1501-1504, and engraves it as such (pl. 43) and it is known that La Cosa complained of the Portuguese frequenting the coast in 1503. Facsimiles of the map are given in Varnhagen's *Premier Voyage de Vespucci*; Stevens's *Hist. and Geog. Notes*, pl. 2, and *Narr. and Crit. Hist. of Amer.*, iv. p. 34. Cf. the references in Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1513.

Of the other map in this Ptolemy, "Orbis typus universalis," Kohl gives no copy; but a facsimile can be found in Ruge's *Geschichte des Zeitalters der Entdeckungen*, Berlin, 1881. It shows a part of South America, with the islands "Isabella" and "Spagnolla," with a bit of coast to the north which seems to represent the Cortereal regions. Greenland projects from Europe.

Cf. D'Arvezac's *Martin Hylacomylus Waltsemüller, ses ouvrages et ses Collaborateurs*, Paris, 1867, — extracted from the *Annales des Voyages*, 1866.

— A. D. 1514.

A map (12 gores of a globe) found in a copy of the *Cosmographiae Introductio*, Lugduni, and engraved in a *Catalogue* of Tross, the Paris bookseller, 1881. HARRISSE, in his *Cabots*, p. 182, has ascribed it to Louis Boulenger. Cf. Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1522.

— A. D. 1514-1520.

A Portuguese portolano given in Kunstmann's *Atlas*, pl. iv., and in Stevens's *Notes*, pl. v. Cf. Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1522.

33. A. D. 1515. **Reisch's Margarita Philosophica.**

A facsimile of the map in this book, which was published at Strasbourg in 1515. Kohl used a copy in the library at Munich. The name "Zoanamela" is given to North America, borrowed, Kohl thinks, from the *Pacsi novamente ritrovati* (lib. iv.), where it is said Columbus discovered a country of this name. Both Cuba and Santo Domingo are called "Isabella." South America is called "Paria seu Prisilia."

The map resembles the "Terre Nove" of the 1513 Ptolemy. The Ptolemy map is bounded on the west by the edge of the sheet, which cuts at the same place, where a scale of longitudes is placed in the Reisch map. West of this scale is "Zipagiu insula," which is thus put relative to the new lands in the same position as in the Stobnicza map. The river with three mouths, running into the gulf, which is in the Ptolemy map (thought by some to represent the Ganges), is left out by Reisch. Others, like Varnhagen, have considered this gulf that of Mexico, and the river the Mississippi.

There is a facsimile of Reisch's map in Stevens's *Hist. and Geog. Notes*, pl. 4. Cf. Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1513.

The first edition of Reisch appeared at Freiburg in 1503. In the next year (1504) there were two editions, one Schott, the other Grüninger, which is priced by Leclerc (*Americana*, no. 2965) at 200 francs, and has a mappemonde, with no other indication of America than the inscription near the African coast: "Hic non terra sed mare est in quo miræ magnitudinis insulæ sed Ptolemæo fuerunt incognite." Quaritch (no. 12,363) had a copy dated 1508, with the same map, which he called "the only

known copy in which the map is to be found." The edition of 1515 had the map above noticed. (Harrisse, *Bib. Am. Vet.* no. 82; *Additions*, no. 45, noting copy in the Imperial library at Vienna.) That of 1517 (Basle) has a woodcut map which is still different. (*Beckford Catalogue*, iii. no. 1256.) Not till 1535 did any edition have any reference in the text to America. *Bib. Am. Vet.* no. 208. The latest edition was in 1583, which was published at Basle. It has a map of the world showing America. (Leclerc, no. 2926.) It is priced at 25 marks and £7.

— A. D. 1519.

Portolano by Maiollo figured in Kunstmann's *Atlas* (pl. v.), in Santarem, and in Thomas's *Der Periplus des Pont. Eux.* It shows the Atlantic coast and the line of demarcation. Cf. *Studi biog. e bibliog. della Soc. geog. ital.* ii. p. 109; *Atti Soc. ligure*, 1867, p. 92; Kohl, *Die beiden Generalkarten* 30, 146; Desimoni in *Giornale liguistico*, ii. p. 54.

Enciso, in the dedication of his *Suma de Geographia*, Sevilla, 1519, mentions a map which he had made to elucidate his text for Charles I. (Charles V., later); but it is not now known.

34. A. D. 1520. **The Frankfort Globe.**

Only the American parts, with Japan, (Zipangu) are given of a globe preserved at Frankfort-on-the-Main.

Kohl conjectures the date to be 1520 because of its correspondence with a globe of that date made by Schöner, and he suspects this may also be the work of that globe-maker, while Wieser, in his *Magalhães-Strasse* (p. 19), where an engraving of it is given, declares it to be the globe made to accompany Schöner's *Luculentissima quedam Terræ totius Descriptio*, printed in 1515, and of which two copies are now known. This at Frankfort, of which Jomard (pl. 15) gives a drawing, and another at Weimar. Cf. references in Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1522.

35. A. D. 1520. **Schöner's Globe.**

Only the American portion is given, but without comments. The globe is preserved at Nuremberg, and there are representations of it given in Kohl's *Geschichte der Entdeckungsreisen zur Magellan-Strasse*, Berlin, 1877, p. 8; in *Harper's Magazine*, Dec. 1882, p. 731; in Ghillany's *Martin Behaim*, Santarem, Lelewel, Wieser, etc. Cf. references in Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1522.

36. A. D. 1520. **In Camers's Edition of Solinus.**

This cordiform map is by Petrus Apianus (or Bienewitz, as he was called in his vernacular), appeared in the *Polyhistoria* of Solinus, edited by the Italian monk, Camers, and also in 1522 in the *De Orbis Situ* of Pomponius Mela, published by Vadianus.

There are facsimiles of this map in the *Carter-Brown Catalogue*, and in Santarem's *Atlas*.

Cf. references in Winsor's *Bibliog. of Ptolemy's Geography*, sub anno, 1522.

37. A. D. 1522. **In the Ptolemy of 1522.**

The map "Orbis Typus Universalis," signed "L. F.," showing part of South America and Cuba, the whole of "Spagnollo," and no other part of America; "Islandia" (Iceland) being placed off the point

of Norway, and "Gronland" being shown as a projection of Europe. The name AMERICA is on South America. Cf. Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1522. This map of Laurentius Frisius was repeated without change of date in the Ptolemy of 1525, and again in that of 1535.

Kohl does not include in this collection another map of this 1522 Ptolemy, called "Tabula terre nove," which is a re-engraving of the map numbered 32, *ante*. Also repeated in the 1525 and 1535 editions.

— A. D. 1524.

Two small maps in Apian's *Cosmographicus liber*, published at Landshut. Cf. Harrisse, *Bib. Am. Vet.* no. 127, and *Additions*, p. 87. The edition of 1529 (*B. A. V.* no. 148) has annotations by Gemma Frisius, a pupil of Apian; and in the same year his *Cosmographicæ introductio* (1529) is an abridgment of the large work (*B. A. V.* no. 149). The Antwerp edition (1528) of the *Cosmog. liber* has no map. There were other editions at Venice in 1533, and at Antwerp in 1534. (*B. A. V.* nos. 148, and *Additions*, nos. 88, 100, 106.) Cf. Winsor's *Bibliog. of Ptolemy*, sub anno 1540; and Harrisse, *Notes on Columbus*, p. 174.

The Prémontre globe of about this date. Cf. Winsor's *Bibliog. of Ptolemy*, sub anno 1540.

— A. D. 1525.

Harrisse, *Bib. Am. Vet.* no. 133, cites the *Yslegung der Mer-Carthen or Cartha Marina*, and ascribes it to Laurentius Frisius. It has two large maps. Kohl gives a portion of the northeast coast of America (later to be mentioned). The 1530 ed., *Uderweidung und Auslegung der Cartha Marina*, published at Strasburg (*B. A. V.* no. 158), has no maps.

— A. D. 1526.

A map by the Monk Franciscus, figured in Lelewel, pl. 46, showing North America as a part of Asia. The original is called "Hoc orbis hemisphaerum cedit regi Hispaniæ." It appeared in the *De orbis situ ac descriptione Francisci epistola*. Cf. Harrisse, *Bib. Amer. Vet.* no. 131, where it is put under 1524.

38. A. D. 1527. **The so-called Hernando Colon map.**

The original (on parchment) is anonymous, and in the Grand-Ducal library at Weimar, and is dated at Seville in 1527. During the sixteenth and seventeenth centuries it had been kept in Nuremberg. Kohl, as has been the custom, assigns it to Ferdinand Columbus, but Harrisse dismisses his and other claims, and is inclined to ascribe it to Nuño Garcia de Toreno. Cf. Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1540, for references. It shows the line of demarcation, as established between Spain and Portugal, or rather the Spanish view regarding that vexed question. Kohl later published a facsimile of the American parts of this map in his *Die beiden ältesten Generalkarten von Amerika*, Weimar, 1860.

39. A. D. 1527. **Robert Thorne's map.**

This map was made by an English merchant, living in Seville, who sent it to England, where it was published by Hakluyt in his *Divers Voyages*

in 1582, and is reproduced in the Hakluyt Society's edition of that book; and for the American portion in the *Nar. and Crit. Hist. of America*, iii. 17, and in Brown's *Cape Breton*, p. 22. Thorne professes to have "discovered the secrets" of the licensed map-makers of Spain.

Cf. Winsor's *Bibliog. of Ptolemy*, sub anno 1540.

— A. D. 1527.

A map by Maiollo, preserved in the Biblioteca Ambrosiana at Milan, which is in part figured in Desimoni's *Giovanni Verrazzano*, 3d app., Genoa, 1882; and in the *Narr. and Crit. Hist. of America*, vol. iv. Cf. Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1540. The date has been altered to 1587. *Studi biog. e bibliog. della soc. geog. ital.*, 1882, ii. pp. 113, 154.

— A. D. 1527.

The *Studi biog. e bibliog. della soc. geog. ital.* ii. p. 113, and *Atti soc. ligure*, 1867, p. 174, refer to a map of Baptista Agnese of this date in the British Museum; but the date is earlier than is usually assigned to this cartographer. Cf. Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1540.

The *Studi*, etc., ii. p. 114, also cites a carta nautica of about 1527, preserved in the Biblioteca Laurenziana, at Florence, which shows the east coast from Labrador to the Straits of Magellan.

40. A. D. 1528. **The world by Coppo.**

The original belongs to a rare book called: *Portolano delli Lochi maritimi ed isole de Mar . . . composto per Piero Coppo*, Venetia, 1528, of which there is a copy in the Grenville Collection, British Museum. The representation, which fills two pages of the book, is different from any other. America is represented by a large group of islands, of which "Mondo Novo" (South America) is the most extensive. Cf. Zurla, *Fra Mauro*, p. 9, and his *Marco Polo*, ii. p. 363; HARRISSE, *Bib. Am. Vet.*, no. 144. The Kohl MS. in the Amer. Antiq. Soc. has another drawing of the map, and it is sketched in the *Narr. and Crit. Hist. of America*.

Coppo refers to Columbus in a passage quoted by HARRISSE, *Notes on Columbus*, p. 56, from a citation in Morelli's *Operette*, i. 309.

— A. D. 1528. (See no. 48.)

The map of the world in Bordone's *Libro*, later known as the *Isolario*. It is sketched in H. H. Bancroft's *Central America*, i. 144. Lelewel (pl. 46) dates it 1521, since all the maps in the book are supposed to have been made then or earlier. It was reissued in 1533. Cf. references in Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1540.

41, 42. A. D. 1529. **Ribero's map.**

These copies give only the American parts of this map of the world. Kohl in these drawings copied the draft of it by Güssefeldt, which was given in a monograph by M. C. Sprengel, *Über Ribero's älteste Welt-karte*, published in 1795, which followed a copy at Jena, and which Kohl says he follows in lieu of something better. In 1860, Kohl reproduced the Weimar original in his *Die beiden ältesten General-Karten von America*. The entire map is given in Santarem; in Lelewel, and in Rüge's *Geschichte des Zeitalters der Entdeckungen* (1883). There is another early copy in the Archivio del Collegio di Propa-

ganda at Rome. Cf. the references in Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1540, and the *Bull. de la Soc. de Géog. de Paris* (1847), i. p. 309.

Referring to the Newfoundland region, Kohl thinks Ribero may have seen and used a map of these parts made in 1506 by a Frenchman. This refers to Charlevoix's statement of a map made by Jehan Denys; but HARRISSE, *Cabots*, p. 250, pronounces it "absolument apocryphe." A facsimile of an undated map of the Ribero type was published by the Spanish Government in the *Cartas de Indias* in 1877.

A Spanish planisphere in the possession of the Marchesi Castiglione in Mantua shows the whole Atlantic coast of both Americas, and on the Labrador coast has this legend: "Tierra que descubrio Estevan Gomez este año de 1525 por mandado de su majestad." Cf. *Studi biog. e bibliog. della Soc. geog. ital.*, ii. no. 412; Portioli, *Carte e memorie geografiche in Mantova* (1875), p. 24.

— A. D. 1529.

A planisphere of Hieronimus Verrazzano in the Museo Borgiano at Rome, which has been given in whole or in part in the monographs on Verrazzano by J. C. Brevoort, H. C. Murphy, and B. F. De Costa. Cf. Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1540, and *Studi biog. e bibliog. della Soc. geog. ital.* ii. p. 116.

This same, *Studi*, etc., ii. p. 116, quotes a carta nautica of this date (1529) as being in the British Museum, and ascribed to Baptista Agnese.

43, 44. A. D. 1530. **In the Sloane Mss., Brit. Museum.**

The original is attached to a manuscript *De principiis astronomie*, and placed by its Catalogue at about 1530. There is no date on the map, but the inscription on the coast above Florida is: "Terra Franciscana nuper lustrata," which may refer to Verrazzano or Cartier; if to Cartier the date would be 1536 or later. North America is a continuation of Asia eastward. South America is cut off by the bottom of the map at 40°; but an inscription at that point says: "Hic ultra 55 g extendit." The map is very like the cordiform map of Orontius Finæus reduced to a plane. It is also in Kohl's MS. in the Amer. Antiq. Society's library.

45. A. D. 1530. **Diego Homem.**

The original, among Lord Lumley's (d. 1609) maps in the British Museum, is noteworthy from the west coast of the two Americas having no defined or supposable limit, the green color of the Continent simply fading away. The eastern coast is of the Ribero type. The only names are "Timististan" (Mexico) and "Mundus Novus" (South America).

46. A. D. 1531. **The world by Finæus.**

The original is an engraved map in the Paris (1532) edition of the *Novus Orbis*, usually ascribed to Grynæus. This map, of which the title is "Nova et integra universi orbis descriptio," is of a double cordiform projection, divided at the equator. The author of it is Orontius Finæus, or Oronce Fine, who dates it July, 1531, in a dedication to Christian Wechel, who bore the expense of its production. Ortelius in his list mentions this map as "Orbis terrarum typus, sub forma cordis humani." This edition of the *Novus Orbis* has sometimes another map; but this is the proper one. Cf. *Bib. Am. Vet.*, nos.

172, 173; and references in Winsor's *Bibliog. of Ptolemy*, sub anno 1540. The same map is in the 1540 edition of Pomponius Mela. Cf. *Bib. Am. Vet. Additions*, no. 127.

— A. D. 1532.

The map by Münster in the Basle edition of the *Novus Orbis*, of which there are facsimiles in the *Narr. and Crit. Hist. of America*, iii., and in Stevens's *Notes*, pl. IV. no. 4. It was repeated in the 1537 and 1555 editions of the *Novus Orbis*. Cf. Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1540.

A mappemodé by Bartolomeo Olivero, with other maps of Central and South America, contained in an Atlas in the Royal University Library at Pisa. Cf. *Studi biog. e bibliog. della Soc. geog. italiana*, ii. no. 414.

47. A. D. 1534. America.

An engraved map published in Venice Dec. 1534, with the title, *La Carta universale della terra ferma ed isole delle Indie occidentali*. It purports to be compiled from two marine charts, made in Seville by pilots of the Emperor. Kohl thinks the author drew from the charts of the Spanish hydrographical bureau as Ribero did, whose map it resembles. Kohl errs in saying that the Bermudas appear here for the first time on an engraved map, since they appeared in 1511 in the engraved Peter Martyr map. The coast from Paria to New England is called "Indie occidentali;" South America is called "Mondo Nuovo—Terra Ferma." A large part of the western coast of South America (Chili and Peru) is left blank. The western coast of North America above Central America is omitted. The only known copy of this map is in the Lenox Library; it is reproduced in Stevens's *Notes*. Cf. full references in Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1540.

48. A. D. 1534. The world by Bordone.

An engraved map on an elliptical projection in the *Isolario de Benedetto Bordone*, published in 1534. What seems to stand for the Gulf of Mexico is bounded on the north by a projecting "terra del laboratore," and on the south by a larger peninsula, called "Mondo Novo." (See *sub no. 40*.)

— A. D. 1534.

A map of the Ribero type in the Ducal library at Wolfenbüttel. Cf. HARRISSE'S *Cabots*, p. 185.

Santarem, *Bull. de la Soc. de Géog.*, vii. 322, refers to a globe at Weimar of this date.

49. A. D. 1534. The world.

An engraved map of an elliptical projection, inscribed: "Tiguri Anno M.D.XXXIIII." It resembles the map in the Basle, 1532, edition of the *Novus Orbis*, but omits the islands on the eastern coast of America. Kohl does not trace its origin.

50. A. D. 1535. The world in the Ptolemy of 1535.

It gives of America only the northeast corner of South America and the eastern coast of what is apparently Newfoundland or Labrador. It is called "Tabula Nova Orbis," and was repeated in the Lyons edition of 1541. "Gronlanda" is made a long narrow promontory stretching southwest from the northwestern extremity of Europe.

51. A. D. 1536 (?). The world.

The original is an undated MS. in the Bodleian Library, of an elliptical projection. The dotted line given for the Chili coast, and the indications of Pizarro's conquest of Southern Peru, induce Kohl to place it between 1534 and 1536. It resembles the delineation in the American parts of the maps of Baptista Agnese of about this date.

A similar outline is given in the Turin Atlas (1530-1540), of which Wuttke gives an outline in the *Jahresbericht des Vereins für Erdkunde in Dresden*, 1870. Still another of a like contour is given in colored facsimile by Peschel in the *Jahresbericht des Vereins für Erdkunde in Leipzig*, 1871.

52. A. D. 1536. The world by Baptista Agnese.

The original is a manuscript map of an elliptical projection preserved in the British Museum, marked: "Bapt. Agnese Venetiis, 1536." The western and northern coasts of North America are vaguely drawn by a dotted line, and so is the coast of Chili. A course from Spain to the Isthmus, and so down the South American coast to Peru, is represented by a pricked line, as is also the route of Magellan's ship round the world. The La Plata river is developed with branches.

Cf. Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1540, for references. A sketch of the map is given in the *Narr. and Crit. Hist. of America*, iv. p. 40.

— A. D. 1536.

An anonymous atlas of eleven charts, showing in one North America and the Moluccas, and in another South America and Africa, has been recently discovered in Padua; and is now in Venice. Cf. *Studi biog. e bibliog. della Soc. geog. ital.* ii. p. 120.

An anonymous atlas of twelve charts in the possession of Nicolo Barazzi in Venice, of which no. 3 is the Pacific and the coast of America; no. 4 is America; and no. 12 the world. It formerly belonged to the Erizzo family in Venice. Cf. *Studi*, etc., ii. p. 128.

— A. D. 1538.

A heart-shaped map of Mercator, of which the only copy known belongs to Mr. J. Carson Brevoort of Brooklyn. Cf. *Bull. of the Amer. Geog. Soc.* 1878, p. 196.

— A. D. 1539.

This date is assigned to an atlas commonly cited as the *Atlas de Philippe II., dédié à Charles Quint*, but which is more correctly defined in the title given to a photographic reproduction, *Portulano de Charles Quint donné à Philippe II. accompagné d'une notice par MM. F. Spitzer et Ch. Wiener*, Paris, 1875. Major is inclined to believe it the work of Baptista Agnese. A copy of this facsimile is in Harvard College Library. Malte-Brun describes the map in the *Bull. de la Soc. Géog. de Paris*, 1876, p. 625. Cf. Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1540.

Plate IV. shows the two Americas, and is of the Agnese type. Plate XIII. shows the eastern coast of North America of the Ribero type, and the whole of South America, with the coast of Chili, is left out. Plate XIV. shows North America, with the west coast drawn up to California, but parts of the east and west coast of South America are left out.

— A. D. 1540.

The "typus universalis" of Münster in the Ptolemy of this date. Cf. Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1540.

— A. D. 1540. **The new world by Münster.**

See no. 58. The same plate was often used during this century, particularly in Münster's publications; with the names of the countries inserted in the block in different type, sometimes in German, sometimes in Latin. Cf. Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1540. There is a reduced facsimile of this map in the *Narr. and Crit. Hist. of America*, vol. iv. p. 47.

— A. D. 1540.

The Antwerp edition of Apian's *Cosmographia* has a map reproduced in Lelewel's *Moyen âge*, pl. 46. Cf. the map in the 1544 (French), 1545 (Latin), and 1548 (Spanish) editions.

53, 54. A. D. 1541. The new world in the Ptolemy of 1541.

Similar to the maps in the editions of 1511 and 1513; but on a large scale, except that "Parias," a name given by Columbus to the northern coast of South America, is here transferred to what is shown of North America.

No. 54 is a less perfect copy.

— A. D. 1541.

Engraved gores of a mappemode by Mercator. Cf. Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1548, with references.

55. A. D. 1542. America by Rotz.

The original is in a MS. in the British Museum, "John Rotz his book of Hydrography." It shows the eastern parts of North America and all of South America (making an island of the eastern parts of Brazil) on a hemispherical projection. It shows a number of fabulous islands in the North Atlantic. An outward curve in the coast of Chili was copied in many later maps. Cf. Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1548, for references.

— A. D. 1542.

The Ulpius globe. Cf. Winsor's *Bibliog. of Ptolemy's Geog.*, sub annis 1540 and 1548, for reference; and also *Ibid.* for the "Mappemonde Harleynne," as Harrisse calls it, in the British Museum.

The map in Hunter's *Rudimenta Cosmographica* — much behind the time — and repeated in 1546, and in other editions till 1561, when a better shape for America was adopted. A fac-simile is given of the 1542 map in Stevens's *Notes*. It resembles the map given in Jomard, pl. xviii., as "sur une Cassette de la Collection Trivulci dite Cassettina all' Agemina."

56. A. D. 1543. America by Baptista Agnese.

The original is a manuscript map in the Collection of the Duke of Gotha, signed, "Baptista Agnese fecit Venetiis 1543 die 18 Februarii." It shows the eastern coast from Labrador to the Straits of Magellan; and the western coast, stopping just north of the same Straits, is renewed at Southern Peru, and extends to the upper verge of Central America.

It notes the discoveries of Ayllon on the Carolina coast. It is partly reproduced in Kohl's *Discovery of Maine*, 316. The *Studi biog. e bibliog. della soc. geog. ital.*, ii. p. 134, notes an atlas hydrographique (showing the world and America) also in the Ducal library at Gotha. There are various other Agnese maps of about this date. One, dated June 25, in the Huth library, is referred to in Harrisse's *Cabots*, p. 189; another in the Biblioteca Laurenziana at Florence is dated Feb. 12. In this chart no. 3 shows the Pacific with America and the Moluccas; no. 4, the Atlantic with the American coast; no. 12 is a general map, indicating the route of Magellan. Cf. *Studi*, etc., ii. p. 131. One of 1544 is in the Royal library at Dresden; it is signed at Venice. Cf. *Studi*, etc., ii. p. 132. Another of 1545 is in the Biblioteca Marciana at Venice. Cf. *Studi*, etc., ii. p. 132. Cf. references in Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1548. The *Studi*, etc., ii. p. 129, notes an Agnese atlas (1536-50) in the Royal library at Munich; and (p. 159) another in the National library at Florence as of the sixteenth century, containing fifteen nautical maps, of which no. 2 shows the coasts of the Pacific, and no. 3 the east coast of America.

— A. D. 1544.

Map by Russell in the British Museum, drawn in part in Kohl's *Discovery of Maine*, p. 296, and in H. H. Bancroft's *Cent. America*, i. 148. Cf. Lelewel, p. 170; and Peschel's *Erdkunde*, p. 371.

The well-known map usually ascribed to Sebastian Cabot. Cf. Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1548 for references; and *Studi biog. e bibliog.*, etc., ii. p. 213.

The map of Münster's *Cosmographia* of this date is reproduced in Santarem and Lelewel, pl. 46.

57. A. D. 1545. The world in the 1545 edition of Ptolemy.

The map is by Sebastian Münster. The same map was re-engraved in the Ptolemy of 1552, and in Münster's *Cosmographia* of 1534.

58. A. D. 1545. The new world by Münster.

This is the well-known map, *Novus Orbis* in the Basle, 1545, edition of Ptolemy. The same plate first appeared in the edition of 1540. (See that date.)

— A. D. 1546.

The Pierre Desceliers map, usually called the "Henri II. map." Cf. Winsor's *Bibliog. of Ptolemy's Geog.* for references; also, Paul Gaffarel's *Brésil Français*, Paris, 1878, p. 6; Guibert, *Ville de Dieppe*, vol. i. p. 348; Malte-Brun's "Un géographe français du XVII^e siècle" in *Bull. de la Soc. de Géog. de Paris*, Sept. 1876.

The map of this date in *Epitome* of Vadianus, published in 1548, is given by Santarem.

The portolano of Johann Freire. Cf. Harrisse's *Cabots*, p. 220.

— A. D. 1548.

Maps no. 59 and no. 60 in the Italian ed. of Ptolemy. Both represent North America as a part of Asia, but differently. Cf. Winsor's *Bibliog. of Ptolemy's Geog.* No. 60, called "Carta Marina," was repeated in the Ptolemy of 1561. It is sketched in the *Narr. and Crit. Hist. of America*, iv. p. 43.

— A. D. 1549.

A Maggiolo atlas in the Biblioteca Comunale in Treviso.

59. A. D. 1549. America by Medina.

The original is an engraved map in Pedro de Medina's *Libro de grandezas y cosas memorables de España*, Seville, 1549. It shows the eastern coast of North America from Labrador south, and both coasts of Central and South America. Kohl suggests that the small size of this and the other early maps of America issued in Spain, indicate the unwillingness of the authorities to allow detailed charts on a large scale to circulate. It shows the famous line of demarcation, which is used to note the degrees of latitude. Cf. *Bib. Am. Vet.*, p. 517; and *Additions*, 165. It is the map of the *Arte de navegar* of 1545, eked out for the lower parts of South America by an added block. Cf. Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1548.

60. A. D. 154-? America by Homem.

This is the western part of an elliptical projection of the world, and belongs to an undated manuscript in the British Museum. The west coast is shown from California to Peru; the east coast entire, and both coasts of Patagonia. Tierra del Fuego is the northern part of a land of unknown extent. The La Plata is developed; but the Amazon is not. "Terra Nova" is a peninsula stretching northwesterly from Norway, with "Yslanda" lying between it and "Bacalaos." The map resembles those of Homem's contemporary, Baptista Agnese.

61. A. D. C. 1550. Nancy globe.

This shows the western hemisphere of the globe preserved at Nancy, in France.

Kohl refers to Blæen's paper on this globe in the *Mémoires de la Société royale des Sciences de Nancy*, 1835, pp. ix. and 97.

It makes North America part of Asia; and shows a large antarctic continent. Cf. Winsor's *Bibliog. of Ptolemy's Geog.*, sub anno 1548, for notices of engravings of it.

— xvi. cent.

The *Studi biog. e bibliog. della soc. geog. ital.*, vol. ii. enumerates various maps of this century, without assigning them particular years; and also a variety of MS. sea-manuals likewise of this century.

An anonymous Carta nautica preserved in the Ducal library at Wolfenbüttel, which shows North America in part, as far west as Yucatan and east to Cape St. Augustine (*Studi*, ii. p. 106). Cf. HARRISSE, *Cabots*, p. 185; and Winsor's *Bibliog. of Ptolemy*, sub 1540.

An atlas in the same library, with a map of the new world, which is placed in the last quarter of the century (*Studi*, ii. p. 155).

A Spanish mappemonde of the early part of the century, preserved in the Archivio del Collegio di Propaganda, at Rome (*Studi*, ii. no. 446).

A Portuguese atlas in the Royal archives at Florence, showing no. 17, Acadia; 18, Cape Cod to the Gulf of Mexico; 19, Gulf of Mexico; 20, Antilles; 21-24, South American coasts (*Studi*, ii. no. 451).

An atlas of the first half of the century, in the Biblioteca Angelica at Rome, which has several maps of America (*Studi*, ii. p. 136).

An atlas in the Archivio del Collegio di Propaganda, with a map showing the east coast of Amer-

ica (*Studi*, ii. p. 160; *Bull. de la soc. de géog.*, 1847, vii. 308). Also in the same place a Carta nautica, showing a large part of America (*Studi*, ii. p. 160; *Bull.*, etc., vii. 313).

An anonymous atlas in the Biblioteca Comunale at Fermo (*Studi*, ii. p. 162).

An anonymous atlas in the Museo Civico at Venice, giving the northeast parts of America (*Studi*, ii. p. 163), and another (p. 165) showing the western hemisphere.

- A globe in the Biblioteca Marciana at Venice (*Studi*, ii. p. 164).

An anonymous atlas in the Biblioteca Ambrosiana at Milan, showing the east and west coasts of America (*Studi*, ii. p. 168).

An anonymous Carta nautica, preserved at Milan, showing the American coasts of the Atlantic (*Studi*, ii. p. 170).

An atlas of Antonio Millo, preserved in the Biblioteca Vittorio Emanuele at Rome, showing the two Americas (*Studi*, ii. p. 174).

An anonymous Spanish planisphere of the beginning of the century, preserved in the Royal library at Turin, which shows the coasts of Mexico and the northern parts of South America (*Studi*, ii. no. 406).

An atlas of Francesco Gisolfo of Genoa with a mappemonde, preserved in the Biblioteca Riccardiana at Florence (*Studi*, ii. 169); an anonymous atlas in the same library, which shows the east and west coasts of America (*Studi*, ii. p. 172); and a Portuguese atlas, showing: no. 19, Canada; 20, Florida; 21, Peru; 22, Venezuela; 23-26, South America (*Studi*, ii. no. 452). Several of the maps in the Riccardi palace have been shown in the *Fahrbuch des Vereins für Erdkunde in Dresden*, 1870. Cf. Winsor, *Bibliog. of Ptolemy*, sub 1561.

A Portuguese planisphere of the end of the century, showing the western hemisphere. It is preserved in the Biblioteca Vallicelliana at Rome. (*Studi*, ii. no. 450).

Kohl refers to a "weltkarte" of the middle of the sixteenth century, which is given in the *Mémoires de la société de Nancy*, 1832.

— A. D. 1550-53.

Two portolanos of Pierre Desceliers, one in the British Museum, and the other at Vienna. Cf. *Brit. Mus. Cat. of MSS.*, no. 24065; HARRISSE, *Cabots*, 230; *Bull. de la Soc. de Géog. de Paris*, Sept. 1852 and Sept. 1856.

A MS. parchment chart (1550) of Diego Gutierrez in the Dépôt des cartes de la Marine at Paris.

62. A. D. 1551. The world by Apian.

The original is an engraved "charta cosmographica" in the *Cosmographia* of Petrus Apianus, published at Paris in 1551, with additions by Gemma Frisius. The map is not in the Antwerp edition of 1541, and differs from the one there given. North America is a narrow continental land, north of which Asia and Europe unite. See notes on the bibliography of Apian in *Nar. and Crit. Hist. of America*, vol. ii.

63. A. D. 155-? The world by Martines (?).

The original is a planisphere from a MS. atlas, whose names are mostly Italian with some Spanish ones, which formerly belonged to the Duke de Cassano Serra, and is now in the British Museum. Kohl finds its American portion to correspond closely with a map of Joannes Martines of 1578 in the British Museum, and supposes this to be by

him also. The later map has meridians of longitude, which this has not. South America is called "Peru" in this map, but "America" in the later one. The general outline of the new world resembles that of Porccachi's maps. The huge antarctic continent so common in maps of this time, is shown.

— A. D. 1552.

Münster's maps in the Basle Ptolemy of this year, repeated from the editions of 1540-42-45.

— A. D. c. 1553.

A parchment planisphere in the Dépôt des Cartes de la Marine at Paris. HARRISSE, *Cabots*, 238.

64. A. D. 1554. America by Bollero.

The original is a small woodcut, — called "Brevis exactaque totius novi orbis ejusque insularum descriptio recens — Joan Bollero edita," — which appears in various publications of about this time, including Gomara's *Historia general de las Indias*, to which Kohl credits it. The coasts north of Mexico and Labrador are wanting. Cf. URICOECHA, *Mapoteca Colombiana*, no. 12, and Winsor's *Bibliog. of Ptolemy*, sub 1561.

— A. D. 1554.

An atlas by Baptista Agnese in the Biblioteca Marciana at Venice (*Studi biog. e bibliog.*, ii. p. 139). This was issued in photographic facsimile at Venice in 1881. Cf. Winsor's *Bibliog. of Ptolemy*, sub 1561, for other maps of Agnese of about this time.

A map of André Thevet, cited by D'Avezac, *Sur la projection des Cartes*, Paris, 1863, p. 73.

A map of the world by Framezini, engraved by Julius de Musis.

65. A. D. 1555. The world.

The world on an elliptical projection, copied from the map in the Basle, 1555, edition of Grynæus, in the Grenville copy in the British Museum. It resembles map no. 49 (*ante*); and had earlier appeared in the 1537 edition of the *Novus Orbis*.

— A. D. 1555.

A portolano by Le Testu in the French ministry of war. Cf. Winsor's *Bibliog. of Ptolemy*, sub 1561.

66. A. D. 1556. America, in Ramusio, vol. iii.

The original was made for Ramusio by Gastaldi (about 1550) from material gathered by Oviedo, and sent to Ramusio by the Florentine Hieronimo Fracastoro. It is called: "Universale della parte del mondo nuovamente ritrovata." Ramusio dates the introduction to this volume in 1553, which may perhaps indicate the date of the map; and the material upon which it was founded would seem to include results of Cabrillo's explorations on the California coast in 1542-43.

The maps of the new world, both in this edition, and in that of 1565, are: 1, New world; 2, Temistitan (Mexico); 3, Cusco in Peru; 4, New France and Newfoundland; 5, east part of Brazil; 6, part of America; 7, Taprobano; 8, Hochelaga, — a bird's-eye view of an Indian camp.

— A. D. 1556.

Vopellio's cordiform mappemonde in Girava's *Cosmographia*, Milan. There is a facsimile of it

published by Henry Stevens. It is sometimes found in the 1570 edition of Girava, which is the 1556 edition with a new title.

— A. D. 1558-80.

Atlas of Bertelli e Forlani, published at Rome, containing maps of North and South America. Cf. Sabin's *Dictionary*, ii. 5000. See no. 69. What is called Lafreri's Roman atlas, *Tavole moderne di Geografia*, is sometimes given as published at Rome and Venice, 1554-72. Forlani's map, *Universale Descriptione*, is cited as of 1565, 1570, etc. Cf. Thomassy, *Les Papes géographes*, p. 118.

67. A. D. 1558. America by Homem.

The original is a MS. map by Diego Homem in the British Museum, a part of a large general atlas by this Portuguese chart-maker, who inscribes it: "Diegus Homem cosmographus fecit hoc opus anno salutis, 1558." The words "mundus novus" are in a scroll on South America; but "America" in small letters is on the region north of the Amazon, which runs a general easterly course. The coast of Chili and the western coast of Patagonia are indicated by a dotted line. The California coast is carried a short distance above the peninsula of California. The Bay of Fundy runs nearly north. The St. Lawrence is broadened into a sea of uncertain limits. Cf. *Brit. Mus. Cat. of MS. maps*, 1844, vol. i. p. 27; HARRISSE, *Cabots*, p. 243; and further on atlases of this time by Homem in Winsor's *Bibliog. of Ptolemy*, sub 1561.

— A. D. 1559.

HARRISSE, *Cabots*, p. 244, cites a mappemonde of Andreas Homo, preserved in the Ministry of Foreign Affairs at Paris.

68. A. D. 1560. America by Nicollo del Delfinato.

The original is an engraved map belonging to the *Navigazioni del mondo novo*, published in Venice in 1560, and is inscribed: "Opera di M. Nicolle del Delfinato, Cosmografo del Christianissimo Re." Kohl points out its resemblance to a map edited by Forlani and made by Gastaldi in 1560, though it shows less, but on a large scale. It shows from Labrador to 15° below the equator on the east coast; and omits all north of Mexico on the west coast. Both this and Forlani's were published by the same publisher in Venice.

69. A. D. 1560. The new world by Gastaldi and Forlani.

An engraved map (in the British Museum) inscribed: "Paulus de Furlanis Veronensis opus hoc exmi Cosmographi Dni Jacobi Gastaldi, Pedemontani instauravit. . . Venetis, Joann Francisci Camotii aereis formis. . . Anno MDLX."

North America is connected with Asia; the North Pacific extending only to the 40° N. Lat. The Amazon runs north. The La Plata is not developed. A polar sea is north of Labrador.

The map was again issued unchanged, by Forlani in 1576.

— A. D. 1560.

A small globe in the mathematical salon at Dresden. Cf. Wieser's *Magalhães-strasse*, p. 70, where one by Johannes Prætorius is referred to, as being in the same place, and assigned to 1568.

— A. D. 1561.

A map by Girolamo Ruscelli in the edition of Ptolemy, published at Venice. The coasts of California and Chili are left uncertain. The same book has several sectional maps of America. These maps were repeated in the Ptolemies of 1562, 1564, and 1574.

An atlas of Bartolomeo Olives di Majorca in the Royal archives at Naples, nos. 2 and 3, showing parts of North America and the Antilles. Cf. *Studi biog. e bibliog.*, ii. no. 428.

An improved map in Honter's *De Cosmographiæ rudimentis*, published at Basle.

— A. D. 1662.

A map of the younger Diego Gutierrez. HARRISSE, *Cabots*, p. 152.

— A. D. 1562-66.

Carta nautica of Paolo Forlani in the National library at Paris. It is figured in Santarem's *Atlas*. Cf. *Bull. de la soc. de géog. de Paris*, 1839; *Studi biog. e bibliog.*, ii. p. 142.

The catalogue of the King's maps in the British Museum puts a map of Forlani under 1562. Cf. Thomassy, *Les Papes géographes*, 118.

— A. D. 1563.

Atlas of Giorgio Sideri detto Callapoda di Candia, containing ten maps, one showing the two hemispheres, and another, America. It is in the Biblioteca Marciana at Venice. Cf. *Studi*, etc., ii. no. 433.

— A. D. 1564.

An atlas of Baptista Agnese, dated May 25, 1564, referred to in *Brit. Mus. Cat. of MSS.*, no. 25442; and another in the Biblioteca Marciana. Cf. HARRISSE, *Cabots*, 189. There are various undated atlases of Agnese, mentioned in Winsor's *Bibliog. of Ptolemy*, sub 1597.

— A. D. 1566.

An engraved map of Zaltiere or Zalterius of Bologna, measuring $15\frac{1}{2} \times 10\frac{1}{2}$ inches, called the earliest map to show the straits of Anian. Cf. *Nar. and Crit. Hist. of America*, iv. p. 93.

A brass globe in the town library at Nuremberg by Johannes Praetorius. Cf. Ghillany's *Behaim*, p. 60.

A MS. map by Des Liens of Dieppe in the National library at Paris. Cf. *Nar. and Crit. Hist. of America*, iv. 78.

An engraved map of Johannes Paulus Cimberlinus of Verona, showing North America as a part of Asia. Mr. Brevoort has a copy.

— A. D. 1567.

An atlas of this date is quoted by Santarem as being in the Ternaux bibliothèque. Cf. *Bull. de la Soc. de Géog. de Paris*, 1837 (viii.), p. 175. It shows the new world.

70. A. D. 1568. America by Homem.

The original is a MS. map in the Royal library at Dresden, purporting to be by "Diegus cosmographus," a Portuguese living in Venice in 1568. Kohl identifies him with Diego Homem, and traces the resemblance of this map to Homem's map of

1558 (no. 67 *ante*). This map has a northern coast of North America drawn in, which that of 1558 did not have.

The La Plata river is made something like an interior sea, with islands, and has a small channel connecting with the ocean on the northern coast of Brazil.

71. A. D. —. The world.

A map in a double-cordiform projection, following an engraved original in the British Museum. Its only inscription is "Ant. Sal. exc. Romæ." A legend on it speaks of America being better drawn than in other contemporary maps.

Northern Asia extends in a peninsular shape round the north pole, with "Groelandia" as a subordinate peninsula. The "Baccalearum regio" has a group of islands lying east of it, called "Insule Corterealis." A "Fretum arcticum" separates this from the polar land. The Amazon discovered in 1542 is left out. The Chilian coast is "Littora incognita."

It is sometimes assigned to about the year 1540.

— A. D. 1569.

The great mappemonde of Gerard Mercator. Cf. references in *Nar. and Crit. Hist. of America*, iv. 369; and in Winsor's *Bibliog. of Ptolemy*, sub 1597.

72. A. D. 1570. America by Ortelius.

Engraved map in the first edition of the *Theatrum Orbis Terrarum*, of Abraham Ortelius, the most learned geographer of his time. He gives in his text accompanying the map about twenty Spanish, Italian, German and French authorities for his sources,—most of which he might have found in Ramusio, though his map is far in advance of that presented by Ramusio. This delineation of Ortelius with that of Mercator, may be said to have established a type for the contour of the Americas, which long prevailed. For various subsequent issues see *Nar. and Crit. Hist. of America*, iii. 34; iv. 369.

Reference may be made to a globe of this date by Francisco Basso, a Milanese; and a MS. map by Jehan Cossin of Dieppe, in the National library at Paris. HARRISSE, *Cabots*, 217.

— A. D. 1572.

The mappemonde in Porcacchi's *L'Isola piu famosa del mondo*, published at Venice, repeated in later editions, 1576, 1590, etc. One of them is given in facsimile in Stevens's *Notes*, etc.

— A. D. 1573.

Lelewel, *Moyen âge*, vol. i. pl. 7, cites a "Orbis terrarum a hydrographo Hispano in plano delineatio."

— A. D. 1574.

Two maps of the western hemisphere (one dated 1574) in the *Theatri Orbis Terrarum Enchiridion* of Philippus Galæus, "per Hugonem Favolium illustratum," published at Antwerp in 1585.

73. A. D. 1575. America by Thevet.

An engraved map, according to Kohl, in Thevet's *La France Antarctique* (Brazil about Rio Janeiro), published in 1575 and 1581. The map is called "Le nouveau monde découvert et illustré de nostre

Temps," and though Thevet professes that he based it on new material, it is largely a copy of Ortelius, with a more profuse ramification, to the rivers, of which Thevet probably had no further information than Ortelius had; but he gives some French names, which Ortelius does not give. He goes a little farther north than Ortelius. There was also a map in Thevet's *Cosmographia*.

Cf. a map in Belleforest's *Cosmographia*.

74. A. D. 1576. The world by Sir Humphrey Gilbert.

An engraved cordiform map in Gilbert's *Discourse of a Discovery for a new passage to Cataia*, London, 1576, where the chart is called "A general map made onely for the particular declaration of this discovery." The map is similar in aspect to Apian's (no. 62), but the northern waters of America are different, in order to illustrate Gilbert's views, according more with Homem's in making open water west of Labrador and neighboring parts, which are made islands. There is a facsimile in the *Nar. and Crit. Hist. of America*, iii. ch. 6.

Wieser in his *Magalhães-Strasse*, p. 72, refers to an erd-globus of Apian preserved in the Hof bibliothek at Munich.

75. A. D. 1578. The world by Martines.

A MS. map in the British Museum, marked: "Joan. Martines en Messina, aſii, 1578." It is of a double hemispherical projection, and in outline America is of the Ortelius type, though very different in the region of the St. Lawrence.

The British Museum *Catalogue of MS. maps*, i. p. 29, shows the Martines atlas to contain various American maps: 1, the world; 2, the two hemispheres; 3, the world in gores; 10, west coast of America; 11, coast of Mexico; 12, 13, South America; 14, Gulf of Mexico; 15, part of east coast of North America.

76. A. D. 1578.

A duplicate of no. 75, — less perfect.

77. A. D. 1578. The world by Martines.

A MS. map, smaller than nos. 75 and 76, likewise in the British Museum, and differing in parts from that map, particularly in the St. Lawrence region; and in making the Amazon a long river, rising in Patagonia, while in the other map, it has a short course and is all north of the La Plata. The mountain ranges in both Americas stretch east and west.

The British Museum MSS., no. 22018, is a portolano of Martines, dated 1579. The *Brit. Mus. Cat. of MS. maps*, 1844, i. 31, gives a map of the world by Martines (*sub anno 1582*). The South American part is facsimiled in colors in Bibliophile Jacob's *Moyen Age*.

78. A. D. 1578. The world by Frobisher.

An engraved sketch in Best's *True Discourse*, regarding Frobisher's voyage, showing that commander's view of a passage, called after himself, connecting the Atlantic with the Straits of Anian. The coasts discovered since Ptolemy's time are drawn in pricked lines. Cf. Collinson's *Frobisher*, and *Nar. and Crit. Hist. of America*, iii. ch. 3.

There is a mappemonde in the *Speculum Orbis terrarum* of Cellarius.

— A. D. 1582.

An elliptical mappemonde in Popellinière's *Trois moudes*. It is of the Ortelius and Mercator type.

A mappemonde by A. Millo is numbered 27470 in the Brit. Mus. MSS.

— A. D. 1583.

Map in the edition of this year of Reisch's *Margaritha philosophica*, published at Basle. Cf. Uricoechea, *Map. Colomb.*, no. 15.

79. A. D. 1587. The world by Myritius.

An engraved map in the *Opusculum geographicum rarum per Joannem Myritium Melitensem. Ingolstadt: i anno MDCCC.*, the map being called "Universalis orbis descriptio." Myritius was a knight of Malta, and dates his preface in 1587, when Kohl conjectures his map (of which he gives no account) may have been made.

The map makes North America a part of Asia, resembling in this respect that of Forlani of 1560.

Reference may be made under this date to the map in Hakluyt's edition of Peter Martyr, published in Paris. There is a facsimile in Stevens's *Notes, &c.*; and a sketch in the *Nar. and Crit. Hist. of America*, iii. p. 42.

The map in the Ortelius of this year was repeated in the edition of 1598. Uricoechea, no. 16.

80. A. D. 1589. The world by Hakluyt.

An engraved map in Hakluyt's *Principall Navigations*, London, 1589. Kohl points out how South America is improved over Ortelius's delineation; but he remarks as singular, that Drake and New Albion, Raleigh and Virginia, with Frobisher and his straits should be ignored in North America by an English authority. There is also no trace of Drake in the regions about Magellan's straits, — the Spanish authorities seemingly furnishing all the information Hakluyt had. He calls North America, "America sive India nova."

81. A. D. 1589.

A duplicate of no. 80, — less perfect.

82. A. D. 1589. The world by Hondius.

An engraved map, on which a statement that it is intended to show the tracks of Drake and Cavendish, is signed by Jodicus Hondius, 1589. The circumnavigations of these two English explorers are marked by pricked lines; and in one corner a small sketch of Drake's harbor on the California coast, "Portus novæ Albionis," is made. Tierra del Fuego is made a group of islands for the first time, while the great antarctic continent is contracted on this side nearer the southern pole, though it is made to extend as far as the tropic of Capricorn on the other side of the globe. In an inscription referring to the Tierra del Fuego group Hondius remarks that Cavendish and the Spaniards do not accept Drake's views, making a continent the southern boundary of the Straits of Magellan; and on later maps Hondius seems to have accepted these other views. Cf. Uricoechea, no. 25.

83. A. D. 1589. America by Cornelius Judæus.

The western portion of a map called: "Totius orbis cogniti universalis descriptio. Corn. Judæus.

Antuerpia. Pridie Cal. Nov. A. 1589, fecit." It follows the Ortelius and Mercator type; and it particularly resembles the Mercator map of 1587. It has the usual antarctic continent.

Cf. a map of Judaeus in his *Speculum orbis terrae*, 1593.

— A. D. 1592.

The Molineaux globe preserved in the Middle Temple, London.

— A. D. 1593.

Map resembling the Ortelius type in the *Historiarum Indicarum libri xvi.* of Maffei. Cf. Uricoechea, no. 19.

84. A. D. 1594. America by Peter Plancius.

An engraved map entitled: "Orbis terrarum typus de integro multis in locis emendatior auctore Petro Plancio, 1594." Kohl points out its resemblance to Hakluyt's map of 1589. Plancius gives the four large islands about the north pole, which Purchas says were invented by Mercator. There are indications of Frobisher's Voyage; but none of Drake's. Kohl thinks that Plancius had Spanish and Portuguese originals, which are unknown to us, and which he used to advantage in drawing the interior parts of South America.

The map is found in the Dutch edition of Linschoten, 1596. Blundevile, in his *Exercises*, speaks of a Plancius map "lately put forth in the yeere of our lord, 1592." The same map re-engraved, but not credited to Plancius is in the Latin Linschoten, 1599. The English Linschoten of 1598 has the map of the Hakluyt of 1589, re-engraved from Ortelius.

Under this year also, we must put De Bry's maps of the world, of this and later dates; contained in the *Great Voyages*, parts iv. and xii.

Cf. also a map of the world by Quadus.

Santarem cites as in the Propaganda at Rome a portolano of Jean Oliva, the sixth of whose maps is a planisphere showing the Straits of Magellan. Cf. *Bull. de la Soc. de Géog.* (1847), vii. 308, where is also as no. xii., another portolano of the sixteenth century, without name or date, but showing on one of its maps—the eastern coast of America; and again, p. 313, still another of the same century.

— A. D. 1595–98.

The map in Giovanni Botero's *Relazioni universali*, Venice, 1595, and later. Cf. *O'Callaghan Catalogue*, nos. 339, 340; Sabin's *Dictionary*, ii. 6799; Rich (1832), no. 96. There was a later edition in 1603; *Relaciones universales del Mundo*, published at Valladolid, which contains both a map of the world, and one of the two Americas.

— A. D. 1595.

A Dutch map of the world by Loew.

— A. D. 1596.

The maps in the edition of Ptolemy, printed at Venice, and repeated in editions under date of 1597, 1608 and 1617.

85. A. D. 1597. The world by Porro.

A small engraved map, marked "Universi orbis descriptio a Hieronymo Porro Pativino incisa." It

is of the Mercator type; and having been first printed separately, was later published in an edition of Ptolemy at Cologne in 1597, and in another at Venice in 1598. America is called "Ameria, sive India nova." There is the usual Southern polar continent. This and other maps showing America are numbered 2, 29, 34, and 35 in the Ptolemy of 1597.

Under this date also, is a map of the Ortelius type in Wytfliet's continuation of Ptolemy. There is a facsimile of it in the *Nar. and Crit. Hist. of America*, vol. ii.

The globe of Hondius, embodying discoveries in America.

The map in Magninus's *Geographia*.

86. A. D. 1598. The world by Molineaux.

An engraved map, belonging, as Kohl asserts, to the 1598 edition of Hakluyt, but rarely found in it. The facsimile of it issued by the Hakluyt society in 1880, is dated 1600. Kohl refers to Hakluyt's promise in the 1589 edition to give a map by Molineaux, and traces the correspondences in this map to the globe in the Middle Temple, assigned to Molineaux. The map is an attempt to carry out some geographical problems on theoretical grounds, as compare his treatment of the St. Lawrence and the Lakes. The California coast is not carried north of Drake's New Albion. He omits the antarctic continent and Mercator's arctic islands, and the northern coasts of America and Asia. He ignores the usual fabulous Atlantic islands, except Frisland, which he puts southwest of Iceland. He makes an insular group of Tierra del Fuego, and removes the protuberant part of the contour of the Chilian coast, as represented by Mercator and Ortelius; though he preserves a smaller projection nearer the Straits of Magellan. In this he assigns the explorations of Drake in 1577 and of Sarmiento and Cavendish in 1587, as authorities. Contrary to most maps of the time he makes the Pacific in lat. 38°, 1200 leagues wide, and the distance from Cape St. Lucas to Cape Mendocino 600 leagues.

A map of the Ortelius type is in Münster's *Cosmographia*. The Italian Ortelius of this year, *Il teatro del Mondo*, published at Brescia, has three maps showing America, pp. 1, 3 and 11.

— A. D. 1599.

A portolano of G. Oliva. *Brit. Mus. MSS.*, no. 24943.

87. A. D. 1600 (?) Spanish map of America.

An engraved map in the British Museum, published about 1600, and showing the Ortelius and Mercator type, but more closely resembling that of Ortelius (1570). It has the great southern continent. Kohl says that the British Museum Catalogue says it was published in Madrid; but he has doubts, and thinks if so, that the editing was not done by a native Spaniard; and he is inclined to place it several years earlier than 1600.

A map, based on Wytfliet, in the *America sive novus orbis* of Metellus, was published at Cologne, in this year. Uricoechea, no. 24.

88. A. D. 1601. America by Herrera.

An engraved map in the 1601 edition of Herrera's *Descripcion de las Indias*. It shows the line of demarcation, on both sides of the globe, in accordance with Spanish views. A distinguishing feature is the

great width of the northern Pacific. It was reproduced in the edition of 1622; and in the Torquemada of 1723 with some changes.

— A. D. 1602.

Gabriel Talton's chart showing the east coast of the two Americas, preserved in the National Library at Florence. Cf. *Studi*, etc., ii. no. 453.

Giovanni Costo's planisphere of the old and new world, given by M. Canale to Edw. Lester, U. S. Consul at Genoa, in 1844. Cf. *Studi*, etc., ii. p. 181.

89. A. D. 1606. The world by Cespedes.

An engraved map in Cespedes's *Regimiento de Navegacion*, Madrid, 1606. It is of small size, as were all the maps of the new world published in Spain. It resembles no. 88, and ignores the English and French discoveries in North America. The western line of demarcation corresponds to Herrera; the eastern is more favorable to Portugal. The northern shores of America and Asia are but vaguely sketched.

— A. D. 1608.

Map in Gotardus Arthus's *Historia India orientalis*, published at Cologne. Uricoechea, no. 26.

90. A. D. 1613. The world by Oliva.

From a M.S. portolano preserved in the Egerton MSS. in the British Museum. The general map is called "Typus orbis terrarum." It is inscribed: "Joannes Oliva fecit in civitate Marsilliae, Año 1613." It has most of the points of Hakluyt's map; but gives South America better. It has the usual arctic islands and antarctic continent of this period. The language of its names is Italian, occasionally Latin. The *Catalogue of M.S. maps, Brit. Mus.*, 1844, i. 33, shows this portolano to contain maps of the east coast of North America, of the West Indies, and of South America.

The Brit. Mus. MSS., 25714, is a map of the world by Oliva, put under 1609.

Maps of the world, and of America in the *Detectiones Freti* of Hudson, edited by H. Gerritz.

A map of America by Michael Mercator in the 1613 edition of Mercator's *Atlas*.

— A. D. 1620.

An atlas by Salvatore Oliva in the Biblioteca Laurenziana, Florence, showing the two Americas. Cf. *Studi*, &c., ii. p. 186.

— A. D. 1625.

Hondius's map of the two Americas in Purchas's *Pilgrimes*, iii. 857.

— A. D. 1626.

The map in John Speed's *Prospect*, engraved by Abraham Goos.

91. A. D. 1628. The world (Drake's Voyage).

An engraved map of small size for *The World encompassed by Sir Francis Drake*, London, 1628. The southern continent is called "Magallanica." California is an island.

The map is by Jodocus Hondius, and is reproduced in the Hakluyt Society's ed. of *The World encompassed*. Cf. the Hondius map in the 1613 ed. of Mercator's *Atlas*. Cf. Uricoechea, nos. 29, 30.

92. A. D. 1630. America by De Laet.

An engraved map, "Americæ sive Indiæ occidentalis tabula generalis," in De Laet's *Nieuwe Wereldt*, published at Leyden in 1630. He credits Hessel Gerritz with making the maps from the best published and collected information which De Laet could gather for his use. North America above Labrador and Cape Mendocino is omitted. California is a peninsula, though it was generally made an island at this time. South America is too broad. The southern shore of Tierra del Fuego is left undefined. There is no southern continent. It was repeated in the various editions of De Laet.

III.

NORTH AMERICA.

*** Maps of THE TWO AMERICAS contained in Section II. need of course to be consulted to perfect this enumeration of the delineations of North America.

93. A. D. 1525. North America by Lorenz Friess.

From the "Carta marina Portugalensium," made in 1525 by the German geographer, Friess. What is shown of North America is the coast from Yucatan (apparently an island) well up the eastern coast of the present United States, or even farther. The continent is called "Terra de Cuba, partis affrice," while the island, Cuba (not named), is partly shown. The whole geography is very confused and uncertain, and a segment of a large land or island on the eastern edge of the map may perhaps, as Kohl thinks, stand for Newfoundland. There are names on the map which we cannot trace to Ayllon or Ponce de Leon; which leads Kohl to suspect other voyagers on the coast of which we have no other knowledge. It very likely preserves some of the sources used in the Cantino map.

— A. D. circa 1550.

Atlas of about the middle of the century, preserved in the Riccardi palace at Florence; has some maps of North America. Cf. *Jahrbuch des Vereins für Erdkunde in Dresden*, 1870, pl. vi. and ix.

94. A. D. 1566. North America by Zaltieri.

A map engraved on copper at Venice in 1566. It resembles no. 69 for North America, except that in the present map the Straits of Anian separate North America from Asia. The whole of the northeastern part is erroneous; and it is not easy to define correspondences. Newfoundland is seemingly a group of islands. A large lake, not connected with what is apparently meant for the Saint Lawrence, flows through a river called "S. Lorenzo," which might stand for the Penobscot. It is sketched in the *Nar. and Crit. Hist. of America*, iv. 93. It may be compared with a map of Des Liens (North America) of this same year (1566). There is an original in Harvard College Library.

— A. D. 1568.

A map of Diegus [Homem] preserved in the Royal Library at Dresden.

95. A. D. 1575. North America by Porcacchi.

A map entitled, "Mondo nuovo" in Porcacchi's *L'Isole piu famose del mondo* (1576), engraved by G.

Porro. The text is largely based on Bordone. The map is little more than a reduction of Zaltieri (no. 94).

It originally appeared in the 1572 edition; and was repeated in the 1576 edition. It is sketched in the *Nar. and Crit. Hist. of America*, iv. 96.

— A. D. 1578.

The Martines Atlas in the British Museum, shows (nos. 10 and 15) the coasts of North America. It is sketched in the *Nar. and Crit. Hist. of America*, iv. 97.

96. A. D. 1580. North America by J. Dee.

A MS. map in the British Museum presented by Dr. Dee to Queen Elizabeth, but perhaps not made by him, since it is not in his autograph. The California coast is carried well up beyond the peninsula; but there are no traces of Drake's New Albion. The St. Lawrence Gulf (except the west coast of Newfoundland) and river (without the lakes or any corresponding water) is very well defined. It is sketched in the *Nar. and Crit. Hist. of America*, iv. 98.

97. A. D. 1582. North America by Lok.

An engraved map in Hakluyt's *Divers Voyages*, 1582, since repeated in the Hakluyt Society's edition of that book, and in the *Nar. and Crit. Hist. of America*, iii. 40; iv. 44.

98. A. D. 1593. North America by Judæis.

Inscribed "Americæ pars borealis, Florida, Bacalaos, Canada, Corterealis, a Cornelio de Judæis in lucem edita, 1593." It belongs to his *Speculum Orbis terræ*. It is sketched in the *Nar. and Crit. Hist. of America*, iv. 97.

99. A. D. 1600. North America by Quaden, or Quadus.

Engraved map by Mathias Quaden, or Quadus, which appeared in the *Geographisches Handbuch*, Cologne, 1600, and is entitled, "Nova Orbis pars borealis." The Pacific coast above Lower California is not shown. The northern parts are of the Mercator type. The Central America region is omitted. The mountain ranges run east and west. It is sketched in the *Nar. and Crit. Hist. of America*, iv. 101.

100. A. D. 1625. North America [by Briggs] from Purchas.

Engraved map in Purchas's *Pilgrimes*, vol. iii. Kohl says it has more original value than the other maps in that volume. Hudson's Bay is left with a part of the western bounds of it unfixed, while the western coast of the continent is not drawn above 45°, — indicating by legends on the map a supposed northwest passage. California is shown as an island, with a northern limit under 42°, "as appears by a map brought to London out of Holland."

— A. D. 1635-1636 (?)

The undated *America Septentrionalis* of Joannes Janssen, published at Amsterdam. The *Novissima et accuratissima totius Americæ Descriptio per N. Vischer*, of about the same date. The English translation by Henry Hexham of the Hondius-Mercator Atlas, printed at Amsterdam in 1636, has in vol. i. a

map of the world, showing much the same configuration as is given in vol. ii. in a general map of America, particularly as regards the northern parts.

— A. D. 1644.

A map of America in an edition of Linschoten, published at Amsterdam. It is of the Mercator type.

— A. D. 1646.

Two maps of America, "Petrus Koerius cælavit Anno do. 1646," in Speed's *Prospect of the most Famous Parts of the World*, London, 1668.

— A. D. 1650.

An engraved map of North America by Sanson d'Abbeville. HARRISSE, *Notes sur la Nouv. France*, no. 325.

— A. D. 1651.

An edition of Speed's *Prospect*, 1676, has a map of the world dated 1651, showing North America.

— A. D. 1652.

A map by Visscher, *Americæ nova descriptio*, marked "Autore N. I. Piscator."

— A. D. 1655.

A map in *America, or an exact description of the West Indies*.

— A. D. 1656-1663.

Dr. Peter Heylyn's map of America, in his *Cosmographia*, Robert Vaughan, sculp. There were later editions.

— A. D. 1657.

The *Amérique Septentrionale* of G. Sanson and later editions.

— A. D. 1659.

A "New and accurate map of the world" in the *History of the World*, by Dion Petau or Petavius, London, 1659.

— A. D. 1666.

W. Hollar's map of America. Cf. *Catalogue King's maps in Brit. Museum*, i. 23.

— A. D. 1669.

The map of North America in Blome's *Description of the World*; again in 1670, following Sanson.

— A. D. 1670.

The map in Ogilby's *America*.

— A. D. 1673-74.

Joliet's earliest map, showing North America, of which a reproduction is given in the *Revue de Géographie*, 1880, and in other places; and a sketch in the *Nar. and Crit. Hist. of America*, iv. 208.

— A. D. 1678.

Map of the world in Kircher's *Mundus Subterraneus* (Amsterdam), of the Ortelius type.

— A. D. 1681-84.

Franquelin's MS. map of 1681 made from Joliet's data, of which there is a sketch in the *Nar. and Crit. Hist. of America*, iv. 218; a configuration more elaborately worked out in his great map of 1684, of which there is a sketch in *Ibid.* iv. 228.

— A. D. 1683.

Hennepin's map of North America, dated 1683, 1697.

— A. D. 1685-98 and later.

The map in R. Burton's [N. Crouch's] *English Empire in America*.

— A. D. 1691.

Map of North America in Leclercq's *Établissement de la Foi*, reproduced in Shea's translation of that book.

— A. D. 1692-93.

Sanson's map of North America (1692); and the map published at Amsterdam in 1693 by Mortier. There were later dates.

— A. D. 1694.

L'Amérique Septentrionale of Hubert Jaillot; and his map of the world in 1696.

— A. D. 1700.

Delisle's map of America.

— A. D. 1702.

The map of North America in Campanius' *Nya Sverige*, of which there is a facsimile in the *Nar. and Crit. Hist. of America*, iv. 394.

— A. D. 1709.

La Hontan's map, *Carte Generale de Canada*. The 1703 edition has a sectional map.

— A. D. 1710.

John Senex's map of North America, of which there is a reproduction in David Mill's *Report on the Boundaries of the Province of Ontario*, Toronto, 1873.

— A. D. 1717.

Herman Moll's map of North America, in his *Atlas*. Moll's maps were used in Oldmixon's *America*, 1708 and 1741.

— A. D. 1714-22.

The *Hémisphère septentrional* of Guillaume de l'Isle; and his *Carte d'Amérique*.

— A. D. 1731.

L'Amérique mise au jour par Danet, Paris.

— A. D. 1733.

Henry Popple's *Map of the British Empire in America, with the French and Spanish Settlements adjacent thereto*.

— A. D. 1738.

Map of America in Keith's *Pennsylvania*.

— A. D. 1740.

Delisle's map of North America, of which there is a reproduction in Mill's *Boundaries of Ontario*, 1873.

— A. D. 1741.

Moll's map of North America in Oldmixon's *British Empire*.

— A. D. 1744.

Bellin's map in the *Nouvelle France* of Charlevoix, and his map of the world in 1748.

— A. D. 1746.

The *Amérique Septentrionale* of D'Anville; and the *America Mappa* of Homann.

— A. D. 1747.

The North America of Bowen's *Geography*.

— A. D. 1755-56.

D'Anville's map of North America, and the reproduction of it, "improved" in Douglass's *Summary of the British Settlements in North America*, 1755 (English edition). The map in John Haske's *Present State of North America* (2d ed.) showing the extent of the British claim to territory and the map (1756) in Mill's *Boundaries of Ontario* (1873) showing the French claim.

— A. D. 1757.

L'Amérique Septentrionale, published by Covens and Mortier at Amsterdam; and that in Robert de Vaugondy's *Atlas Universel*.

— A. D. 1760.

L'Amérique, par Sanson rectifiée par Robert, contained with others in Van der Aa's *La Galerie agréable du Monde*.

— A. D. 1762.

L'Amérique par Janvier in the *Atlas Moderne*.

— A. D. 1763.

Delisle's *L'Amérique* of 1722, corrected by Buache. Mat. Scutterius' map of North America. Bowen's *Map of North America*.

*** The maps at this time, and later, gave the new definitions of bounds, as fixed by the Treaty of Paris in 1763.

IV.

NORTHERN PARTS OF NORTH AMERICA.

*** The maps in Sections II. and III. need to be consulted to supplement the enumeration of the present section.

— A. D. 1496-1631.

J. W. Rundall's map (modern surveys) of Arctic explorations (Baffin's Bay, Hudson's Bay, etc.) between these years is in Thomas Rundall's *Voyages*

towards the Northwest, published by the Hakluyt Society, 1849. See also Petermann's "Karte der Arktischen und Antarktischen Regionen, zur Übersicht der Entdeckungsgeschichte" in his *Geographische Mittheilungen*, xiv. (1865) pl. 12; und *Ergänzungsband*, iv. no. 16, pl. 1; and the map in Peschel's *Geschichte der Erdkunde*, ed. Ruge, 1877, p. 288.

101. A. D. 1503. The North Atlantic.

From a Portuguese portolano, showing the northern coasts, above Nova Scotia. Greenland is tolerably drawn with a broad expanse of water on the west (Baffin's Bay). A second Greenland (Engronelant) is drawn as a peninsula extending from Scandinavia, as in earlier maps, and separated from the true Greenland by a passage to the polar seas.

— A. D. 1503-1504.

A Portuguese chart showing the northeastern coast, given in Kohl's *Discovery of Maine*, p. 174; and in the *Nar. and Crit. Hist. of America*, iv. 35.

— A. D. 1514-1520.

The coast from Nova Scotia to Labrador, as shown in a sketch given in the *Nar. and Crit. Hist. of America*, iii. 56. It is a portion of a chart giving a large part of the coast. Cf. Kohl, *Discovery of Maine*, p. 179; Stevens' *Notes*, and Kunstmann's *Atlas*.

— A. D. 1522-1525.

A map of Lorenz Friess in the *Ptolemy* of 1522 shows Greenland as an elongated island in the N. W. of Europe. There is a facsimile of it in Norden-skiöld's *Broderna Zenos*, Stockholm, 1883. This map is not contained in the 1525 edition of Ptolemy, where a map, "Tab. nova Norbergiæ et Gottiæ," shows Greenland as a much broader peninsula of North-western Europe, called "Engronelant." No. 49 of the 1525 edition is still another delineation, representing "Gronlanda" as a long, narrow peninsula extending southwesterly from the northwest of Europe. A reproduction of this map, ascribed to Ancuparius, the editor of the Ptolemy of 1522, is given in Witsen's *Noord en Oost Tartarye*, vol. ii. (1705).

102. A. D. 1525. Labrador and Greenland, by Lorenz Friess.

From the atlas of Lorenz Friess, 1525, Labrador is called "Terra nova Conterati" (of Cortereal), who is said in a legend to have discovered it in 1510, instead of 1501. The abundance of herring and stockfish (cod) on the coast is mentioned. The southern part of Greenland is east of Davis Straits. "Terra laboratoris" is made an island, west of, and near to the lower point of Greenland. The Azores (Ilas Axagoras) are shown.

— A. D. 1532.

A map in Ziegler's *Scandia*, etc., published in Strassburg, and again in 1536, gives a sweep of unbroken coast which he calls "Terra Bacalaois," "Ulteriora Gronlandia," "Incognita." Both editions are in the Carter-Brown Library (*Catalogue*, i. nos. 103, 120). There are copies of the 1532 edition in the Collections of Mr. Chas. Deane and Mr. Jas. Carson Brevoort.

103. A. D. 1534. Labrador by Bordone.

Engraved map in his *Isolario*, Venice, 1534. The country is called "Terra de lavoratore"; and it is the earliest extension of a large island which may, as Kohl thinks, stand for North America, whose S. W. point is separated by a strait from the "Mondo Novo" (South America). If this conjecture is correct the strait corresponds to such a passage, as shown in other maps of this time. In the ocean are the islands, "Asmaide," "Bresil," and "Astores."

104. A. D. 1542. Northeast Coast, by Rotz.

From Rotz's MS. *Booke of Idrography* in the British Museum. It shows "New fonde Lande" broken into islands; the coast north of the straits of Belle Isle. A compass conceals what was perhaps intended for Davis or Hudson's Straits; and then north of this a curved peninsula marked "Cost of Labrador," which seems to be Greenland, extends towards "Islonde." Kohl points out its resemblance to the Henri II. or Dauphin map (see *sub* no. 58).

— A. D. 1544.

The sectional maps of the Northeast coast, by Jean Allefonse, of which sketches are given in the *Nar. and Crit. Hist. of America*, iv. 74-77. One of them is reproduced in Weise's *Discoveries of America*.

— A. D. xvi. cent.

Various maps, showing the Northeast coasts of North America, and extracted in part from mappemondes, are sketched in the *Nar. and Crit. Hist. of America*, iv. 81 *et seq.*

Portuguese atlases preserved in the Royal archives and in the Biblioteca Riccardiana at Florence, which show this coast, are mentioned in the *Studi biog. e bibliog. de la soc. ital.*, ii. nos. 451, 452.

— A. D. 1547.

The map of Scandinavia in Bordone represents "Engronelant" as a peninsula of Europe.

— A. D. 1548.

The "Della Terra nova Bacalaois" by Gastaldi in the Italian Ptolemy of 1548, of which there is a sketch in the *Nar. and Crit. Hist. of America*, iv. 88.

— A. D. circa 1553.

Gastaldi's map, *Nuova Francia*, which appeared in the third volume of Ramusio in 1556. There are facsimiles of it in the *Nar. and Crit. Hist. of America*, iv. 91; and in Weise's *Discoveries of America*, p. 356.

105. A. D. 1558. Iceland by A. Mercator.

— A. D. 1561.

Ruscelli's *Tierra Nueva* in the Ptolemy of this year, showing the coast from Florida to Labrador. There are sketches of this map in Kohl's *Discovery of Maine*, 233; Lelewel, *Geog. de Moyen Age*, 170; and *Nar. and Crit. Hist. of America*, iv. 92.

This edition has also a map, *Schonladia*, which shows a peninsula north of "Thyle" and beyond the "Mare Congelatum," which is a supposable Greenland.

106. A. D. 1562. The North Atlantic from the Ptolemy of 1562.

This is an engraved reproduction of the Zeni map, which had been first published in 1558, and had been followed in 1561 by Ruscelli. To the present Ptolemy copy by Moletta, that cartographer adds a note saying that its geography is confirmed by modern navigators, "as we know by letters and marine charts sent to us from divers parts."

See bibliographical memoranda relating to the Zeni map and its influence in Winsor's *Bibliog. of Ptolemy*, sub anno 1562.

— A. D. 1562.

An engraved map of the east coast of North America from Cape Breton to Florida made by Diego Guitierrez, the cosmographer of King Philip, and engraved by Cock.

— A. D. 1567.

"Gruntlandia" (Greenland) is shown in a map of the northern regions in *Olar Magni Historia*, published this year at Basle. There is a facsimile of the map in Nordenskiöld's *Bröderna Zenos*, Stockholm, 1883.

— A. D. 1570.

A map of the North Atlantic by Stephanius, based on Icelandic sources, given by Kohl in his *Discovery of Maine*, p. 107, and in Weise's *Discoveries of America*, p. 22. Ortelius gave this year in his *Theatrum Orbis Terrarum*, a map of the northern regions which he called "Septentrionalium Regionum Descrip.," showing "Estotiland" (apparently a part of the main), with "Groclant," "Groenlant," "Drogeo," "Island," and "Frislant" as islands in the north Atlantic. It was repeated in the editions of Ortelius of 1575, 1584, and 1592. There were new engravings of it in Münster's *Cosmographia* in 1595; and in the Cologne-Arnheim edition of *Ptolemy* in 1597.

107. A. D. 1575 (?) Northeast Coast.

From a MS. Portuguese map in the British Museum, inscribed: "On the 20th Nov. 1580, a Portuguese, Fernando Simon, lent this map to John Dee in Mortlake, and a servant of Dee copied it for him." It shows the coast from Cape Breton, north to Hudson's Straits. The St. Lawrence gulf is given, but not the river. Newfoundland is broken into islands. The map resembles that of Freire of 1546 (no. 58); but does not suggest Dee's own map of 1580, as sketched in the *Nar. and Crit. Hist. of America*, iv. 98.

108. A. D. 1578. Frobisher's Discoveries.

Taken from a map in Best's *True Discourse*, London, 1578, and confirming Frobisher's own map of the world (no. 78). There is an engraving of no. 108 in Collinson's *Frobisher's Voyages*, 1867, published by the Hakluyt Society.

109. A. D. 1580. The Polar Regions by Dee.

It represents the polar islands of Mercator; Greenland as a long island, with Estotiland as an island of uncertain limits, southwest of Greenland. "Icaria," "Frislant," and "Tula ins." lie east of Greenland. Dr. Kohl has not annotated it.

— A. D. 1585-87.

A modern map showing Davis's explorations is given in the Hakluyt's Society's edition of *Davis's Voyages*, p. 1.

110. A. D. 1587. Northeast Coast.

From a manuscript atlas in the British Museum, inscribed: *Livre de la Marine du Pilote Pastoret, l'an, 1587. S. F. M.* Dr. Kohl thinks the name may be "Pralut" or perhaps "Pasterot." It shows the coast from Cape Breton to La Mer Glacée. Newfoundland is a group of islands. The straits of Belle Isle is marked as where Cartier passed. The Greenland region resembles No. 104.

111. A. D. 1592. Northeast Coast by Molineaux.

An extract from Molineaux's globe in the Middle Temple, London, showing the St. Lawrence river and gulf; Newfoundland as islands; Davis Straits and Greenland. Molineaux had Davis's charts, now lost. Frobisher's Strait is made to separate the southern part of Greenland from an island,—an error long perpetuated. There is a sketch of this part of the globe in the *Nar. and Crit. Hist. of America*, iii. 213.

112. A. D. 1592. Polar Regions by Molineaux.

From his 1592 globe. Shows the north of Europe and Asia, but of America it gives only the northeast coast of Greenland. It omits Mercator's Polar islands, in which Molineaux finds no ground for belief.

113. A. D. 1597. Labrador and Greenland by Wytfliet.

The engraved map "Estotilandia et Laboratoris terra" in Wytfliet's continuation of Ptolemy. It shows both coasts of "Fretum Joan Davis," and bears a resemblance to this part of the Molineaux globe (no. 111). The erroneous Frobisher's Straits (south of Greenland) are drawn, but not named. Frisland lies an island southeast of Greenland, of which it really was in Kohl's view the southern part.

Another Wytfliet map, "Nova Francia et Canada, 1597," is given in facsimile in the *Nar. and Crit. Hist. of America*, iv. 100. A third map of Wytfliet shows the coast from the St. Lawrence gulf to South Carolina. A fourth represents the archipelago of Newfoundland (as he understood it) and Labrador.

114. A. D. 1598. The North Atlantic, Ed. Ptolemy.

The map "Scandia" in the 1598 (Venice) edition of Ptolemy, translated into Italian by Cernot. A well-known Italian cartographer is known to have made some of the maps of this edition, and may have made this. The American shore is based on the Zeni map.

115. A. D. 159-(?) Greenland and Ireland.

This is called by Dr. Kohl "an English map, 159-?" but he gives no further information. It shows the eastern shore of Greenland, the erroneous "Froboshar's Straits," the islands "Freeseland" and "Island."

116. A. D. 160-? North Polar regions by Mercator.

Engraved map of a part of the northern hemisphere (above 60° lat.) in the *Mercator-Hondius Atlas*, Amsterdam, 1630; but it is assigned to Gerardus Mercator himself; and was made, as Kohl thinks, a little before Mercator's death in 1594. Kohl also calls it the first time the projection was used, which makes the north pole the centre. He represents the four large islands round the pole, which Mercator, getting the idea from Cnoyen, was the first at an earlier date to introduce into maps, and between which he supposes the oceans to flow to the pole, where the superfluous water is absorbed by the south. He places the magnetic pole under 74°, on a line from the pole to the Straits of Anian,—also thought by Kohl a first attempt to locate such pole, but he forgets the attempts of Ruysch, Martin Cortes, and Sanuto. Greenland is made an island with defined northern capes. The land about Davis's Straits is shown much in the same way as in the Molineaux globe of 1592 (no. 111). Mercator gives the same large inland fresh-water sea in northern Canada, with connection with the polar ocean.

A similar map on a smaller scale, extending only to 60° N. lat. is given in Purchas, iii. 625, as "Hondus his map of the Arctic Pole."

117. A. D. 1600. Arctic regions.

An engraved map in De Bry's *India Orientalis, tertia pars*, 1601, where it appears without other explanation than that it was made by "Wilhelmus Bernardus" (Barentz, the Dutch navigator). Kohl and Markham suppose it to have been made by Barentz on his third voyage, 1596-97. The parts of America shown are Greenland, Fretum Davis, and Estotiland. Markham says regarding the facsimile of the original map which appears in the Hakluyt Society's edition of *Barentz' Three Voyages*, that "the map was first published in 1599 by Cornelius Claeszoom in the second part of the abridged Latin edition of Linschoten's *Itinerarium*; but it is wanting in some copies."

This may be compared with the Arctic parts of the map of the world by Molineaux, as reproduced by the Hakluyt Society in 1880.

— A. D. 1600.

A map by Metellus, "Estotilandia et Laboratoris terra." It shows "Groenlandiæ pars," "Islandia," "Frisland," and "Terre de Laborador."

— A. D. 1601.

Harrisse, *Cabots*, p. 201, refers to a beautifully executed map of the Atlantic, marked: "1601, R. Dieppe par Guilleme L'vesseur le 12 de Juillet."

118. A. D. 1608. Greenland.

A little map, showing a small part of "Groenlant," marked also "Hold with Hope." Kohl credits it to Hudson, but gives no explanation.

— A. D. 1609.

The map in Lescarbot's *Nouvelle France*, of which there are sections in facsimile in the *Nar. and Crit. Hist. of America*, iv. 150, 152, 374, 378. It is also reproduced in the Paris reprint and elsewhere.

A map of about 1610, preserved in the French archives, and of which there is a copy in the *Mass. Archives*, is sketched in the *Nar. and Crit. Hist. of America*, vol. iii.

— A. D. 1611.

A map by Jodocus Hondius explaining Barentz's third voyage, which appeared in the Latin ed. of Pontanus's *Amsterdam*, 1611, and in the Dutch ed. of 1614. It is given in facsimile in Asher's *Henry Hudson the Navigator*, published by the Hakluyt Society, 1860. It is called "Tabula Geogr. in qua admirandæ navigationis Cursus et recursus designatur."

— A. D. 16—.

Hondius's map of Iceland is given in Purchas, iii. 644.

119. A. D. 1612. Arctic Regions by Hudson.

Hudson's chart of his northern expedition between Greenland and Hudson's Bay. Kohl makes no comments on this map, which follows an engraved chart in De Bry's *India Orientalis, pars x*, 1613. A facsimile is given in Asher's *Hudson the Navigator*, published by the Hakluyt Society, 1860. It is called *Tabula Nautica*, . . . anno 1612.

120. A. D. 1612. The same.

On this copy Kohl remarks upon the absence of any reference to the map in De Bry's text, which he supposes was copied—as would appear to be the case—by De Bry from Hudson's own chart in the *Descriptio ac delineatio geographica detectionis freti . . . ab Henrico Hudsono Anglo*, Amsterdam, 1612; and again 1613. There are copies in Harvard College library. Cf. Camus, *Mémoire sur de Bry*, p. 258. The Portuguese designation is given to Newfoundland,— "Ilha de Bacalhao."

— A. D. 1612-13.

The Hondius-Mercator atlas of 1613. This has two maps of Europe, which include Greenland and adjacent parts,—one is by Hondius, the other by Mercator.

A portolano (1613) of Johannes Oliva of Marseilles, in the British Museum, in a chart of the north Atlantic gives the east coast of America from Norumbega to Hatteras. Newfoundland is better drawn than before, but Oliva seems to have been ignorant of Lescarbot's map.

Champlain's maps of 1612 and 1613. That of 1612 extends from the southern side of Cape Cod to Labrador, and that of 1613, though different, covers about the same range of coast. They are reproduced in the Quebec and Boston editions of Champlain, and in the *Nar. and Crit. Hist. of America*, iv. 380-382.

121. A. D. 1615. Hudson Straits by Baffin.

The original M.S. map is in the British Museum. A colored facsimile is given in *Baffin's Voyages*, published by the Hakluyt Society, 1881; and it is given in outline in Rundall's *Voyages towards the Northwest*, published by the same society, 1849. The chart represents Baffin's fourth voyage. Capt. Buck in 1836 was the next to follow this route.

— A. D. 1616, etc.

Petermann in his *Geographische Mittheilungen*, vol. xiii. (1867), pl. 6, gives a map, "Das nördlichste Land der Erde entdeckt 1616 bis 1861," including Bylot and Baffin's map (1616), Ross (1818), Inglefield (1852), Kane (1855), and Hayes (1861).

122. A. D. 1619. Hudson's Straits and Bay.

An engraved map in La Peyrère's *Recueil de Voyage au Nord*, made as that editor says after Danish authorities, — possibly representing Munk's voyage in 1618–19, who named the straits and bay after King Christian. Baffin's Bay becomes "Gulf Davis." The maker of the chart was not aware seemingly of Hudson's explorations in the southern parts of Hudson's Bay.

The same or a similar map appears in La Peyrère's *Relation du Groenland*, Paris, 1647 and 1663.

— A. D. 1624.

Sir Wm. Alexander's map, in Purchas, of which a part is given in facsimile in the *Nar. and Crit. Hist. of America*, iii. 306.

— A. D. 1624–30.

The map by Chapelain, appearing in Isaac de La Peyrère's *Relation du Groenland*, Paris, 1663, is reproduced in an English translation in the volume on *Spitzbergen and Greenland*, published by the Hakluyt Society in 1835. The La Peyrère *Relation* refers to a map "per Martinum filium Arnoldi, ano 1624 & 1625," which had been used in the construction of it; and which was then preserved in the library of Cardinal Mazarin; also to a map made by Capt. Munk on his voyage, reprinted with his narrative, which agrees with a map of Hudson, owned by Chapelain. The same Hakluyt Society volume contains the map of Greenland accompanying Edward Peliham's *God's Power and Providence shewed in the . . . deliverance of eight Englishmen left in Greenland*, 1630, published in London, 1631.

123. A. D. 1625. Greenland.

An engraved map in Purchas's *Pilgrimes*, iii. 472. Kohl has not commented on it, except to call it Spitzbergen, which it seems to be, instead of the modern Greenland. Luke Fox's map (1633) also calls the Asiatic Island by the name of Greenland.

124. A. D. 1631. Hudson's Bay and Greenland by Capt. James.

An engraved map in Capt. Thomas James's *Strange and Dangerous Voyage*, 1633, inscribed "The platt of sayling for the discoverye of a Passage into the South Sea, 1631, 1632." Kohl calls it the earliest map of Hudson Bay giving the entire shore from observation. His latitudes are nearly correct; he omits longitudes. There is a facsimile of part of it in the *Nar. and Crit. Hist. of America*, iii. 96.

125. A. D. 1633. Northern parts by Fox.

An engraved map in Luke Fox's *Northweste Foxe*, London, 1633. It shows the east coast of North America from the Hudson River, including Hudson's and Baffin's Bays, to Greenland, and the west coast above Cape Mendocino to a point north of the straits which separated what was then supposed to be the Island of California at its northern end from the main.

— A. D. 1636, etc.

Maps of Baffin's Bay by Luke Fox (1636), Hexham's Mercator-Hondius (1636), Moll (1706), Barrington (1818), and modern charts are given in Markham's *Voyage of William Baffin*, published by the Hakluyt Society, 1881. The Fox map is reproduced in the *Nar. and Crit. Hist. of America*, iii. 98.

— A. D. 1644–63.

An engraved map of Iceland by Du Val in La Peyrère's *Relation de l'Islande*, Paris, 1663.

— A. D. 1646.

Robert Dudley's map of the St. Lawrence and adjacent parts, continued in his *Arcano del Mare* (Florence, 1647), p. 52; and sketched in the *Nar. and Crit. Hist. of America*, iv. 388. It is called in Dudley: "D'America Carta prima."

— A. D. 1656.

Sanson's *Le Canada* includes the region about Hudson's Bay.

— A. D. 1660.

The *Tabula Novæ Franciæ* of Du Creux or Creuxius, of which a portion is given in facsimile in the *Nar. and Crit. Hist. of America*, iv. 389.

— A. D. 1661.

North America in the *Zee-Atlas* of Van Loon.

— A. D. 1662.

"A chart of Hudson's Straights and Bay, of Davis's Straights and Baffin's Bay, as published in the year 1662," is given in T. S. Drage's *Account of a Voyage for the Discovery of a Northwest passage*, London, 1749, vol. ii.

126. A. D. 1669. Greenland by Goos.

An engraved map in Pietro de la Goos's *Atlas de la marine*, Amsterdam, 1669. He makes Frobisher's Straits cut off the southern end of Greenland, and gives many names, unknown in earlier maps, to the shore of Greenland, opposite Iceland; while Dutch names on the western coast would indicate explorations by Hollanders in that region.

127. A. D. 1685. Hudson's Bay by Jaillot.

It shows the French and English posts: and Kohl says the information is drawn almost entirely from Canadian sources.

Bleau's atlas of 1685 gives maps showing the northern parts.

— A. D. 1687.

Morden's maps in Blome's *Present state of His Majesty's Isles and Territories in America*.

— A. D. 1716 (?)

Delisle's *Carte du Canada* shows also the polar regions. It is also in the atlas published by Covens and Mortier at Amsterdam.

— A. D. 1720.

C. G. Zorgdragers, *Groenlandsche Visschery*, Amsterdam, 1720, had maps of the Polar regions, Greenland and Iceland, which are repeated in the Copenhagen edition of 1727. Frobisher's Straits are represented as cutting off the southern part of Greenland.

— A. D. 1728.

The *Atlas maritimus et Commercialis*, London, 1728, has a map of the St. Lawrence Gulf, and the Northeastern coasts.

128. A. D. circa 1730. Between Lake Superior and Hudson's Bay.

A MS. map by De la Veranderie preserved in the Dépôt de la Marine in Paris. "Donnée par Monsieur de la Galissonière, 1750." It shows the country between Lake Superior and Hudson Bay, with its waters and portages, and forts and trading-posts.

129. A. D. 1730. Country Northwest of Lake Superior.

An Indian map, made by Ochagach, preserved in the Dépôt de la Marine, showing water-ways and portages. Kohl supposes it to have been carried to Europe by De la Veranderie, who used it in compiling map no. 128.

130. A. D. 1740. Hudson Bay Country.

Kohl calls this map a sketch of the territory explored by De la Veranderie, and says the original in the Dépôt de la Marine at Paris is called, "Carte des Nouvelles découvertes dans l'ouest du Canada et des nations qui y habitent. Dressée, dit-on, sur les Mémoires de Monsieur de la Veranderie, mais fort imparfaite à ce qu'il m'a dit. Donnée au Dépôt de la Marine par Monsieur de la Galissonière en 1750."

— A. D. 1741.

An engraved map of Greenland in Hans Egede's *Grønland*, Copenhagen, 1741; repeated in the German edition, Copenhagen, 1742; and called "Grønlandia Antiqua;" also in the *Beschreibung von Grønland*, translated by Krünitz, Berlin, 1763.

Cf. the map by Paul Egede in his *Æfterretninger om Grønland*, Copenhagen, 1789.

— A. D. 1742.

The northeastern coasts in the *English Pilot* of 1742 and later dates.

131. A. D. 1746. Northwest parts of Hudson Bay.

An engraved map in *The Probability of a Northwest passage*, by Theodore Swaine Drage, clerk of the "California" (one of the ships), London, 1768, purporting to record discoveries of Capt. Smith and Capt. Moor in 1746-47. Drage accompanied Smith and Moor on this voyage.

There is a chart of Hudson Bay and straits according to the discoveries between 1610 and 1743 in Drage's *Account of a Voyage for the Discovery of a Northwest passage*, London, 1748, vol. i., and in vol. ii. the same map as that used by Kohl.

132. A. D. 1747. Wager's Bay by Ellis.

An inlet in the northwest part of Hudson's Bay, mapped by Ellis, who accompanied Smith and Moor. It was named on Middleton's voyage.

— A. D. 1746-47.

A map of Hudson's Bay and adjacent parts in the German edition of Henry Ellis's *Reise nach Hudson's meerbusen*, Göttingen, 1750. This map is not in the Harvard College copies of the English and French editions.

133. A. D. 1748. Hudson's Bay by Ellis.

An engraved map in Henry Ellis's *Voyage to Hudson's Bay*, London, 1748, an account of the expedition of Francis Smith and Wm. Moor. The map was re-engraved in the German edition, Göttingen, 1750; and in the French edition, Paris, 1749. It shows the region from California to Greenland, and north of Lake Erie. The expedition was fitted out by London merchants, and after Parliament in 1743 had offered £20,000 for the discovery of a northwest passage. Kohl remarks that the discoveries of Hudson, Baffin, Fox, and James are not well delineated by Ellis.

134. A. D. 1763. Hudson Bay by Bellin.

Without comment by Kohl.

135. A. D. 1774. Hudson's and Baffin's Bays by Samuel Dun.

An engraved map, showing all the inlets of Hudson's Bay closed up at their interior extremities, indicating the end of the belief in a westerly passage being discovered through any of them. Baffin's Bay is represented as a large oval, among some of whose western passages (it is stated on the map) a passage may yet be possible to the Pacific. "Christian Sea" (King Christian's Sea) discovered by Munk in 1629, is put in the northerly part of Baffin's instead of Hudson's Bay.

— A. D. 1774.

Map of the north Polar regions in the *The Journal of the Voyage by Phipps and Lutwidge*, London, 1774.

136. A. D. 1765. Greenland by Cranz.

An engraved map in David Cranz's *Historie von Grønland*, 1766, and second edition, 1770; repeated in the English translation, London, 1767.

— A. D. 1783.

Map of the Arctic regions in J. R. Forster's *Voyages and Discoveries made in the North*.

137. A. D. 1785. Hudson's Bay Country by Pond.

A MS. map in the archives of the Hudson's Bay company in London, inscribed: "Copy of a map presented to the Congress by Peter Pond, a native of Milford in the State of Connecticut. This extraordinary man has resided seventeen years in those countries, and from his own discoveries as well as from the reports of the Indians, he assures himself of having at last discovered a passage to the North Sea. He is gone again to ascertain some important

observations. New York, 1st March, 1785, copied by St. John de Crevecoeur for his Grace of La Rochefoucault." Pond's various sojourns are indicated,—the most southern on St. Peter's (Mississippi) River, 1774; the most northern near Lake Athabaska, 1782-83. He puts down the great Northern Sea too far south by ten degrees.

138. A. D. 1789 and 1793. Discoveries of Alexander Mackenzie.

Mackenzie started from Fort Chipewyan on the Lake of the Hills, in June, 1789, and followed the river now known by his name to near its junction with the Northern Sea. In 1793 he followed the Unjijah or Peace River to the Rocky Mountains, thence to the Pacific. Mackenzie seems to have used Arrowsmith's map and Vancouver's surveys, in this map, which accompanies the books which he published about his explorations.

139. A. D. 1790. Hudson's Bay Country by Turner.

A MS. map in the archives of the Hudson Bay company in London, inscribed: "Chart of lakes and rivers in North America by Philipp Turner." Turner was the surveyor of the company and made his principal exploration in 1790-92, in company with Peter Fiedler, his successor as surveyor; and of this exploration Turner wrote an account preserved in the company's archives, of which this map was an illustration. Kohl calls it the oldest of the tolerably correct surveys which we have between the Saskatchewan River and Slave Lake. The rivers whose course is put down from Indian reports are marked by two crosses.

140. A. D. 1799. Greenland and Baffin's Bay by Laurie and Whittle.

An engraved chart published in London. It shows the notions prevailing before Ross's explorations.

— A. D. 1811.

A map of the Arctic regions in E. A. W. von Zimmermann's *Die Erde und ihre Bewohner*, Leipzig, 1811.

— A. D. 1818.

A general map of the Arctic regions in Barrington's *Possibility of approaching the North Pole*, London, 1818.

— A. D. 1818.

Map of the route of the ship "Alexander" in Baffin's Bay, by W. E. Parry, in a *Journal of a Voyage of Discovery to the Arctic regions*, 1818, published at London [1819].

— A. D. 1818.

A facsimile of map of the Arctic regions in 1818, with discoveries since that date inserted in red, given in Hall's *Second Arctic Expedition*, Washington, 1879.

— A. D. 1818-23.

Map of the discoveries by Ross, Parry, and Franklin, in Franklin's *Journey to the Shores of the Polar Sea*, London, 1823.

— A. D. 1819-20.

Map of Arctic regions showing route of Parry's ships, in his *Journal of a Voyage for the Discovery of a Northwest passage*, London, 1821.

— A. D. 1819-54.

Chart of discoveries in the Arctic Seas in Belcher's *Last of the Arctic Voyages*, London, 1855.

— A. D. 1820.

Arctic regions by Wm. Scoresby, jr., including Ross's explorations, in *An Account of the Arctic Regions*, by W. Scoresby, jr., London, 1820.

141. A. D. 1820. Hudson's Bay Countries by Harmon.

It shows the country from Hudson's Bay and Lake Superior on the east to the Pacific on the west. Harmon was an officer of the Hudson's Bay Company who published this map in a journal of his explorations.

— A. D. 1821-23.

Map of Parry's second route, in his *Journal of a Voyage for the Discovery of a Northwest Passage*, London, 1824, with detailed maps in the same volume.

— A. D. 1822.

Map of Greenland by Scoresby in a *Journal of a Voyage to the Northern Whale Fisheries*, by W. Scoresby, jr., Edinburgh, 1823, with a special chart of surveys on the east coast.

142. A. D. 1823. Arctic Regions after Parry.

Parts north of Hudson's Bay. Kohl does not comment on it.

143. A. D. 1824. East Greenland by Scoresby.

Without comment by Kohl.

— A. D. 1824-25.

Map of Prince Regent's inlet drawn by Parry and Head, in Parry's *Third Voyage*.

144. A. D. 1833. Proposed Route of Capt. Back.

See Royal Geographical Society's *Journal*, iii. 64.

145. A. D. 1833-34. Back's River.

See Royal Geographical Society's *Journal*, vol. vi. (1836). It shows his exploration, beginning at the Great Slave Lake, of the Great Fish River, never before followed, when he started to relieve Capt. Ross, then supposed to be confined in the ice, northwest of Hudson's Bay.

146. A. D. 1834. Back River.

Another map of the same region, without comment by Kohl.

147. A. D. 1836-37. Hudson's Strait.

It shows the track of the "Terror," following a map in the Royal Geographical Society's *Journal*, vol. vii., accompanying Capt. Back's report on the northeastern shore of Southampton Island,—the closest observation since Baffin's voyage in 1615.

148. A. D. 1840. Peel River by Isbister.

In Royal Geographical Society's *Journal*, xv. 333, accompanying an account by A. K. Isbister, of his explorations not only of Peel River, but also of Red and other branches of the Mackenzie River, flowing to the Arctic Sea.

— A. D. 1845.

The Arctic regions as known in 1845, — a copy of the map supplied to the Franklin expedition, in Hall's *Second Arctic Expedition*, Washington, 1879.

149. A. D. 1851. Arctic Coast explored by Dr. Rea.

An engraved map extracted from the Royal Geog. Society's *Journal* (1852), xxii. 73, where it is accompanied by two reports of explorations in search of Sir John Franklin.

— A. D. 1850-51.

A map of Wellington Channel and Grinnell land by Lt. De Haven and Capt. Penny, in Peter Force's pamphlet on *Grinnell land*, 1852.

150. A. D. 1851-52. Discoveries of Kennedy and Bellet.

This shows the exploration of travelling parties from the ship "Prince Albert," wintered at North Somerset, on Prince Regent inlet, in search of Sir John Franklin's party. It is copied from one in the Royal Geog. Society's *Journal*, xxiii. (1853.)

151. A. D. 1852. Smith Sound by Inglefield.

Copied from a map in the Royal Geog. Society's *Journal*, vol. xxiii., accompanying a report of Capt. E. A. Inglefield, who was the first to examine the sound forming the northern parts of Baffin's Bay, Baffin himself having only seen its beginning in 1615.

— A. D. 1861, etc.

North polar chart in Sir John Richardson's *Polar Regions* (1861); maps of the "American Arctic Sea," "Smith Sound" and "North Polar Regions" in C. R. Markham's *Threshold of the Unknown Region*, 1873.

*** No attempt is made to enumerate the multitude of recent maps of the Arctic regions.

V.

CANADA.

** The best enumeration of maps covering Canada which has yet been printed is in HARRISSE's *Cabots* and his *Notes sur la Nouvelle France*. Cf. maps under sections II. and III., *ante*.

— A. D. 1508.

Respecting the apocryphal map of Jehan Denys, see *Nar. and Crit. Hist. of America*, iv. p. 36.

— A. D. 1521.

Respecting the extremely doubtful map attributed to Lazaro Luis, see *Nar. and Crit. Hist. of America*, iv. p. 37.

— A. D. 1532.

The map in Ziegler's *Schondia*, etc., Strasburg, 1532 and 1536, shows vaguely the Bacallaos coast. It is given in facsimile in the *Nar. and Crit. Hist. America*, vol. ii.

— A. D. 1534.

A map by Gaspar Viegas of Newfoundland and the Gulf of St. Lawrence is depicted in Kohl's *Discovery of Maine*, pl. xviii.

— A. D. 1542.

Maps in Rotz's *Idrography*.

— A. D. 1545.

The charts of Jean Allefonsce of the region of the Gulf of St. Lawrence, which are sketched in the *Narrative and Crit. Hist. of America*, iv. 74 *et seq.*; some of which are also given in Weise's *Discoveries of America*, 355, and in Murphy's *Verrazano*.

— A. D. 1545.

Carte des Côtes Nord-est de l'Amérique, in the Musée Correr at Venice, noted by HARRISSE, *Notes sur la Nouvelle France*, no. 188.

152. A. D. 1546. Canada and Labrador by Juan Freire.

It shows the coast from 34° N. Lat. to 72° N. Lat., and develops the Gulf and River St. Lawrence. It is called: *Carte du Canada, Labrador, e. t., tirée d'une Portulan Portugais de l'année 1546 dans la possession de Monsieur le Vicomte [Santarem] de Paris*. Kohl considers that Spanish, Portuguese, and French authorities were used. He assigns the regions of the Cortereals — *esta he a tera dos Cort-Reais* — to the territory between what seems to be Penobscot Bay and the St. Lawrence. The names along the latter river are French, corrupted by Portuguese; and so on the eastern coast of Newfoundland, whose western coast is not drawn. There are various imaginary islands in the Atlantic. It is sketched in the *Nar. and Crit. Hist. of America*, iv. p. 86.

153. A. D. 1546. Newfoundland by Freire.

Contained in a Portuguese portolano, of which Libri published, says Kohl, in London a facsimile.

It is inscribed: *Joham Freire a fez era de 546*. It shows the eastern coasts of Labrador and Newfoundland from Hudson's Straits south, the southwestern coast of Newfoundland, and the opposite coast of Cape Breton. (Libri sale, Mar. 20, 1859, £91.)

154. A. D. 1547. East Coast of North America by Nicolas Vallard, of Dieppe.

The coast is given from the end of Florida to the Labrador shore, developing the Gulf and River St. Lawrence. It is part of a MS. map in the Sir Thomas Phillipps collection. The map is endorsed *Terre de Bacalos*. The source of the delineation south of Cape Breton is Spanish, and it shows no trace of Verrazano. Kohl thinks that, for the region north of Cape Breton, the map is based on the maps of Alfonso and Cartier. He remarks on the half Portuguese name of the St. Lawrence, — *Rio do Canada*. The *G. lorens* of the map is not the great gulf, but a small bay opposite the north shore of Anticosti. The eastern shore of Newfoundland has a mixture of French and Portuguese names. On Labrador they are mostly Portuguese. The name of Vallard may signify ownership rather than mark the maker. Cf. *Nar. and Crit. Hist. America*, iv. p. 86, and for a sketch, p. 87.

155. A. D. 1547.

A less perfect copy of the preceding.

156. A. D. 1548. Canada.

The coast from Greenland (apparently) to Nova Scotia, with the Gulf and River St. Lawrence developed. Part of a mappemonde which was communicated to Kohl by Jomard, and thought, as Kohl says, by the latter to have been made by order of Henri II. A figure of Robeval among his soldiers is drawn on the map. The northern parts of the Atlantic are called *Mer de France*; the more southerly, *Mer d'Espagne*. Newfoundland is a group of islands. St. Laurens is a small bay, as in no. 154. The St. Lawrence river is not named, but the Saguenay (R. du Sagnay) is. Since Kohl's day, R. H. Major has deciphered an inscription which assigns its authorship to Pierre Desceliers in 1546. Jomard gives it in facsimile; it is sketched in the *Nar. and Crit. Hist. of America*, iv. p. 85.

— A. D. 1548.

Gastaldi's map, "Della terra nova Bacalaos," in the Italian Ptolemy of 1548.

157. A. D. 155-? Canada.

This represents North America as an island, of which the St. Lawrence is a central basin. Somewhere on the coast of South Carolina a strait connects the Atlantic with the Western Sea, which also washes all the northern confines of the land. Newfoundland is divided by channels, as in the Ramusio map of 1556, and the names on the Eastern shore are Portuguese with French transformations. The names on the lower portion of the Atlantic coast are of Spanish origin. The Atlantic has the usual sprinkling of imaginary islands. It is sketched in the *Nar. and Crit. Hist. America*, iv. p. 89.

158. A. D. 155-?

The same, less perfect.

159. A. D. 1556. La Nuova Francia in Ramusio.

A copy from the engraved map in Ramusio. Kohl suspects that it may have been drawn after Jehan Deny's lost map, and that Ramusio did not have access to Cartier's charts. It is reproduced in the *Nar. and Crit. Hist. America*, iv. p. 91, and in Weise's *Discoveries of America*, p. 356.

159 a. A. D. 1556.

Another copy of the same. The two maps of Gastaldi in Ramusio, "Terra de Labrador et Nova Francia" and "Terra de Hochelaga nella nova Francia," are supposed to have been made in 1553. Cf. HARRISSE, *Notes*, nos. 292, 293.

160. A. D. 1556 (?) Newfoundland, etc.

It also shows Labrador and the coast of Maine, and is taken from a portolano in the British Museum, and in its catalogue it is described as "on vellum in the Spanish language, and executed in the sixteenth century." The coast stretches from 45° to 64° north latitude. It resembles, so far as it goes, no. 152, but it has no indication of the Gulf or River St. Lawrence. It is sketched in the *Nar. and Crit. Hist. America*, iv. p. 87.

161. A. D. 1558. Canada and adjacent parts by Diego Homem.

It shows the eastern coast of North America from 28° N. Lat. to 70°. The Bay of Fundy is developed, and the basin of the St. Lawrence is converted into a northern ocean. The original is in a MS. atlas by Homem in the British Museum. The names of the St. Lawrence region are French, of the coast south of the gulf Spanish, and north of it Portuguese. Cf. sketches in Kohl's *Disc. of Maine*, p. 377, and *Nar. and Crit. Hist. America*, iv. p. 92.

162. A. D. 1558.

Another copy of no. 161.

163. A. D. 1562 and 1574. East Coast of North America.

This gives the coast from 34° N. Lat. to 60°. Newfoundland is a cluster of islands. The St. Lawrence is a network of small streams. The original is an engraved map in the Ptolemies of 1562 and 1574, called "Tierra Nueva." It is based on the Ramusio map of 1556, and there are sketches of it in Kohl's *Disc. of Maine*, p. 233; Lelewel's *Géog. du Moyen-Age*, p. 170; and *Nar. and Crit. Hist. America*, iv. p. 92.

— A. D. 1575.

A Portuguese map of about 1575 in the British Museum, showing the coast from Cape Breton to Labrador.

164. A. D. 1597. Nova Francia et Canada, by Wytfliet.

It shows the Gulf and River St. Lawrence with Labrador. The original is an engraved map in Wytfliet's Continuation of Ptolemy, and is reproduced in facsimile in the *Nar. and Crit. Hist. America*, iv. p. 100. Cf. also Wytfliet's maps, showing Labrador and Greenland, and Newfoundland and the adjacent parts. See *ante*, no. 113.

The maps were repeated in the Douay edition of 1605, etc.

165. A. D. 1609. New France by Lescarbot.

It shows the coast from 40° N. Lat. to 54°, with the course of the St. Lawrence. It follows an engraved map in Lescarbot's *Nouvelle France*. The entire map is reproduced in Faillon's *Colonie Française*, i. p. 85, in Tross's reprint of Lescarbot, and in the *Popham Memorial*. Parts of it are given in the *Nar. and Crit. Hist. America*, iv. p. 152, 304, 379.

See also the 1612 edition of Lescarbot.

— A. D. 1612.

Champlain's map, which is reproduced in the Boston and Quebec reprints of Champlain, and in the *Nar. and Crit. Hist. America*, iv. pp. 380, 381.

— A. D. 1613.

Champlain's map, which is reproduced in the Boston and Quebec editions of his works; and in part in the *Nar. and Crit. Hist. of America*, iv. p. 383. The edition of 1613 had various smaller local maps.

166. A. D. 1613. Canada and Norumbega by J. Oliva.

Showing the coast from 42° N. Lat. to 68°, with the course of the St. Lawrence. The original is in a MS. portolano in the British Museum, marked: *Joannes Oliva fecit in civitate Marsilie, anno 1613*. Newfoundland, as Kohl remarks, is unusually well drawn; but the rest of the map is much behind the best knowledge of the time. See *ante*, no. 90.

167. A. D. 1625. New England and New France, from Purchas.

The main sources of this map appear to be Lescarbot's map of New France and John Smith's map of New England. The original appeared in Purchas's *Pilgrims*, following one in Sir William Alexander's *Encouragement to Colonies* (1624). It is given in part in the *Nar. and Crit. Hist. America*, iii. ch. 9.

168. A. D. 1626. Newfoundland by Mason.

The original is an engraved map in *The Golden Fleece, by Orpheus, Junior*, London, 1626. The map is inscribed: "Newfoundland described by Captaine John Mason, an industrious Gent, who spent seven yeares in the Countrey." Cf. *Nar. and Crit. Hist. America*, iv. p. 379.

169. A. D. 1630. New France by De Laet.

It shows the coast from Cape Cod to Labrador, and as far inland as Lake Champlain. The original is an engraved map in De Laet's *Nieuwe Wereldt*. The map is apparently based on the maps of Purchas, Lescarbot, and Champlain. It was repeated in the Latin (1633) and the French (1640) editions. It is sketched in the *Nar. and Crit. Hist. of America*, iv. p. 384, and in Cassell's *United States*, i. 240.

170. A. D. 1632. New France by Champlain.

This follows the engraved map in the edition of 1632. It is reproduced in the Quebec and Boston editions of Champlain, in O'Callaghan's *Doc. Hist. of N. Y.*, vol. iii., and in the *Nar. and Crit. Hist. America*, iv. pp. 386, 387.

171. A. D. 1632.

An unfinished sketch of the same map.

172. A. D. circa 1640. Canada.

After a rough draft preserved in the Dépôt de la Marine at Paris. Its chief peculiarity is in making Lakes Superior and Huron flow into the St. Lawrence through the Ottawa, with no passage for their waters through Erie and Ontario. Lake Michigan is not indicated. It is sketched in the *Nar. and Crit. Hist. America*, iv. p. 202. Is this the map noted by HARRISSE, *Notes*, etc., no. 197, which he puts sub anno, 1665?

— A. D. 1641 (?).

Rivière St. Laurent (Montreal to Tadoussac), noted in HARRISSE, *Notes*, etc., no. 191.

— A. D. 1647.

The "Canida" map of Dudley's *Arcano del Mare*, of which a sketch is given in the *Nar. and Crit. Hist. America*, iv. p. 388.

— A. D. 1656.

Sanson's *Le Canada, ou Nouvelle France*. It is sketched in the *Nar. and Crit. Hist. America*, iv. p. 391. Cf. HARRISSE, *Notes*, etc., no. 327.

173. A. D. 1660. New France.

Inscribed *Tabula Novæ Franciæ anno 1660*, and the language of the map is Latin. It corresponds in extent nearly to the Champlain map of 1632. Kohl speaks of it as a map which he found in the great Paris library; but it is really the engraved Du Creux or Creuxius map, which is given (in part) in facsimile in the *Nar. and Crit. Hist. America*, iv. p. 389. Cf. HARRISSE, *Notes*, etc., no. 329.

— A. D. 1662.

Map in Blaeu's *Atlas*, of which a sketch is given in *Nar. and Crit. Hist. America*, iv. p. 391. It was repeated by Blaeu in 1685.

— A. D. 1663.

A map of the course of the St. Lawrence, of which a sketch is given in the *Nar. and Crit. Hist. of America*, iv. p. 148.

A map in the *Jesuit Relation* of 1662-63, of which a portion is given in facsimile in the *Nar. and Crit. Hist. of America*, iv. p. 311.

174. A. D. 1666. Lakes Champlain and Ontario.

It is called: "Carte des grands lacs Ontario et [Champlain] et des pays traversés par M^{rs} de Tracy et Courcelles pour aller attaquer les Agniez, 1666." The original is in the Dépôt de la Marine at Paris. It gives the Hudson from Orange [Albany] upwards. It is sketched in the *Nar. and Crit. Hist. America*, iv. p. 312. Cf. Faillon, *La Colonie Française*, iii. 125, and HARRISSE, *Notes*, etc., no. 332.

175. A. D. 1666. Lakes Ontario and Champlain.

Copied from an engraved map in the *Jesuit Relation* of 1664-65. See *Nar. and Crit. Hist. America*, iv. pp. 311, 312, 313.

— A. D. 1666.

Le Canada ou la Nouvelle France: par Nicolas Sanson, Paris, 1666.

The same, by Frederic de Witt.

HARRISSE (*Notes*, etc. nos. 334, 335) says he borrows these titles from P. Lelong's *Bibliothèque Historique*, i. no. 1452, 1453.

— A. D. 1668.

Carte du pays des cinq Nations Iroquoises Kenté in Faillon, La Colonie Française, iii. 196.

176. A. D. 1670. Lake Superior.

Copied from the map which appeared in the *Jesuit Relation* of 1670-71. Facsimiles of this map are given in Bancroft's *United States*, orig. ed., iii. p. 152; Whitney's *Geol. Rept. of Lake Superior*, Monette's *Mississippi*, vol. 1, and *Nar. and Crit. Hist. America*, iv. p. 313. Cf. HARRISSE, *Notes*, etc., no. 340.

— A. D. 1670.

Dollier and Gallinée's map of Lakes Ontario and Huron, sketched in the *Nar. and Crit. Hist. America*, iv. p. 203. Cf. HARRISSE, *Notes*, no. 200.

An undated MS. map, also sketched in *Ibidem*, iv. p. 206, shows the upper lakes and the upper Mississippi.

— A. D. 1670.

The *Novi Belgii Tabula* in Ogilby's *America*, p. 169; reproduced in the *Nar. and Crit. Hist. America*, iv. p. 392.

— A. D. 1671.

Lac Tracy ou Superieur, a MS. in the library of the Dépôt de la Marine, at Paris, noted in HARRISSE, *Notes*, etc., no. 201.

— A. D. 1673.

Carte de la nouvelle découverte que les pères Jésuites ont fait en l'année 1672, et continuée par le P. Jacques Marquette, — a MS. map belonging to the National Library in Paris, which HARRISSE says (*Notes*, etc., 202) cannot now be found.

— A. D. 1673.

Carte des missions des PP. Jésuites sur le lac des Illinois, in the *Jesuit Relation*, 1673-79, as published in New York in 1866.

177. A. D. 1675. The Great Lakes and the Upper Mississippi by Joliet.

The original is in the Dépôt de la Marine at Paris, and has on it a letter addressed to Frontenac. See HARRISSE, *Notes*, etc., no. 203-204.

In the *Nar. and Crit. Hist. America*, iv. (p. 208), is Joliet's earliest map (1673-74), with indications of places where it can be found in facsimile; (pp. 212, 213) is what is known as Joliet's larger map of 1674; and (p. 214) his smaller map. In the same book (p. 215) is another early map of the basin of the Great Lakes from the Parkman Collection, and (p. 218) a sketch of Joliet's "Carte Générale." Cf. HARRISSE, *Notes*, etc., nos. 214, 342, 343. As to the genuine and spurious map of Marquette see *Ibidem* (p. 220), and sketch. This last map is also in Andreas's *Chicago*, i. 47.

— A. D. 1676.

Pascaerte van Terra nova, Nova Francia, Nieuw Engeland en de Grootte Revier van Canda in Roggeveen's *Tourbe Ardente*, and in the English edition, *The Burning Fen*.

178. A. D. 1677. Canada by Du Val.

This map is inscribed as follows: "Le Canada, fait par le Sr. de Champlain ou sont la Nouvelle France, Nou Anglet, Nou Holl, Nou Suede, Virginie, et autres terres nouvellement découvertes suivant les mémoires de T. du Val, Géogr. du Roy, Paris, 1677." Cf. *Nar. and Crit. Hist. of America*, iv. p. 388. HARRISSE, *Notes*, etc. (no. 331), gives an edition of 1664, as well as that of 1677 (no. 348).

— A. D. 1679.

Map of Joliet's route from Tadoussac north, in the Archives of the Marine in Paris. HARRISSE, *Notes*, etc., no. 207.

Various sectional maps, preserved in the library of the Marine at Paris, are noted in HARRISSE's *Notes*, etc., nos. 209-213.

— A. D. 1681.

A map (27° to 44° N. Lat.) in the library of the Marine at Paris, made by Franquelin. Cf. HARRISSE, *Notes*, etc., no. 215, and others of Franquelin, in nos. 216, 217, 218.

179. A. D. circa 1683. The Great Lakes and the Upper Mississippi by Raffeix.

It is called: "Parties les plus occidentales du Canada." It is sketched in the *Nar. and Crit. Hist. America*, iv. 233. HARRISSE (*Notes*, no. 238) puts it under the year 1688.

— A. D. 1683.

Hennepin's *Carte de la Nouvelle France* in his *Description de la Louisiane*. There are facsimiles in Shea's translation of that book; in Winchell's *Geol. Survey of Minnesota*, pl. 6; and it is given in part in the *Nar. and Crit. Hist. America*, iv. p. 249. This may be compared with Hennepin's *Carte d'un très grand pays* in the editions of his *Nouvelle Découverte* of 1697, 1698, 1704, 1711, etc., and of which a facsimile (in part) is given in the *Nar. and Crit. Hist. America*, iv. 251. Cf. also BREESE's *Early Hist. of Illinois*, p. 98.

Hennepin's *Carte d'un très grand pays* (1697, 1704, etc., and with English names in the English edition) is also in facsimile in the *Nar. and Crit. Hist. America*, iv. 252-253. Cf. HARRISSE, *Notes*, etc., no. 219, 352.

— A. D. 1684-1686.

Franquelin's great map of 1684, see *ante*, under no. 100, and HARRISSE's *Notes*, nos. 222, 223. The map (1685) which Franquelin made of the St. Lawrence, after material furnished by Joliet. HARRISSE, *Notes*, no. 229. Franquelin's maps (1686), noted in HARRISSE, nos. 231, 232, — of one of which there is a copy in the Parliamentary Library (Canada). See its *Catalogue*, p. 1616.

— A. D. 1685.

Partie de la Nouvelle France par Hubert Jaillot. Cf. HARRISSE, *Notes*, etc., no. 354.

— A. D. 1687.

Pierre Allmand's discoveries between Quebec and Hudson's Bay, as given in the map preserved in the Archives of the Marine. HARRISSE, *Notes*, no. 233.

180. A. D. 1688. Ontario and Erie by Raffeix.

It is inscribed: "Le lac Ontario avec les lieux circonvoisins et particulièrement Les Cinq Nations Iroquoises, 1688." The original is in the National Library at Paris. It is sketched in the *Nar. and Crit. Hist. America*, iv. p. 234. Cf. HARRISSE, *Notes*, no. 237.

— A. D. 1688.

Franquelin's map of the Upper Lakes and the Upper Mississippi as given in Neill's *Minnesota* (1882); *Nar. and Crit. Hist. America*, iv. pp. 230, 231; and in Winchell's *Geol. Survey of Minnesota*, Final Report, i. pl. 2. Cf. HARRISSE, *Notes*, nos. 234, 240.

Coronelli and Tillemon's printed maps (1688) of *Partie occidentale du Canada* (sketched in *Nar. and Crit. Hist. America*, iv. p. 232), and *Partie orientale*. Cf. HARRISSE, *Notes*, etc., nos. 359, 361.

— A. D. 1691.

Carte generale de la Nouvelle France, etc. Cf. HARRISSE, *Notes*, etc., no. 364; also no. 367. *Nuova Francia e Luigiana*, in *Il Genio vagante*, Parma, 1691.

— A. D. 1692.

Franquelin's *Nouvelle France*. Cf. HARRISSE, *Notes*, no. 248.

— A. D. 1696.

Le Canada by H. Jaillot, showing the routes between the lakes and Hudson's Bay.

Le Cordier's *Carte de la Baye de Canada*, etc. Cf. HARRISSE, *Notes*, etc., no. 372.

— A. D. 1699.

Franquelin's *Partie de l'Amérique Septentrionale ou est compris la Nouvelle France*, preserved in the library of the Marine, and noted in HARRISSE, *Notes*, no. 259.

— A. D. 1703.

La Hontan's map of the great lakes in his *New Voyages*, London, 1703; redrawn in his *Mémoires de l'Amérique*, vol. ii.; and also in the editions of 1709 and 1713. A facsimile of the 1703 map is given in the *Nar. and Crit. Hist. of America*, iv. p. 260.

— A. D. 1709.

The *Carte générale de Canada* in the La Haye ed. (1709) of La Hontan, which was repeated in his *Mémoires*, (1741), vol. iii. It is given in sections in the *Nar. and Crit. Hist. of America*, iv. pp. 153, 258, 259. His map of the "Rivière Longue," in the *Nouveaux Voyages*, (1709), vol. i. p. 136, is reproduced in the *Nar. and Crit. Hist. America*, iv. p. 261.

VI.

EAST COAST OF NORTH AMERICA.

** The enumeration of this section may be supplemented by those in Sections II. and III.

— A. D. 1500-1541.

The delineations of the east coast begin with La Cosa's map (1500), and may be traced through the maps of Cantino (1502), Ruysch (1508), the Nordenskiöld gores (15-?), Stobnicza (1512), the Admiral's map (1513), the Schöner globes (1515, 1520), Reisch (1515), the Tross gores (1514-19?), the map of Apian (1520), Ptolemy (1522), Maiollo (1527), Verrazano (1529), Frisius (1525), Monk Franciscus (1526), Thorne (1527), the Spanish official maps (1527-1529), the map of the Sloane MS. (1530), globe of Finæus (1531), the Lenox woodcut (1534), the map of Agnese (1536), the Charles V. portulano (1539), the Nancy globe (1540?) the map of Münster in the Ptolemy of 1540, the Mercator gores of 1541, etc.

These are but typical specimens to show the constancy or variations of types among the cartographers of the time, and they have all been described on earlier pages.

A reconstruction of the Chaves map of 1536 (now lost) is attempted by De Costa in the *N. E. Hist. Genæal. Reg.* April, 1885.

181. A. D. 1542. From Cape Breton to Florida, by Rotz.

From Rotz's *Boke of Idrography*, preserved in the British Museum. The Spanish names on the coast are corrupted. Across the Gulf of Maine is the legend, "The new fonde Londe quhaz men goeth a fisching." Kohl thinks it perhaps the earliest map in which buffaloes are depicted in the inner parts of the Continent. Cf. *Catalogue of MSS. in the British Museum* (1844), i. p. 23. The present is no. 17 of the atlas. Malte Brun, *Hist. de la Géog.* ed. by Huot, i. 631; *Nar. and Crit. Hist. America*, iv. 82, and for outlines of parts of Rotz's maps, p. 83. See *ante* under no. 55.

— A. D. 1542.

The Ulpius globe. See *ante* under no. 55, and in *Nar. and Crit. Hist. America*, iv. p. 42.

— A. D. 1543.

The map of Baptista Agnese. See under no. 56, *ante*.

— A. D. 1544.

The Cabot mappemonde. See under no. 56, *ante*. The eastern coast is given in the *Nar. and Crit. Hist. America*, iii. 22.

The sketch maps of the northeastern coasts, by Allefonse, are delineated in the *Nar. and Crit. Hist. America*, iv. pp. 74-77.

— A. D. 1545.

Münster's map, which was re-engraved in the Ptolemy of 1552. It is sketched in the *Nar. and Crit. Hist. America*, iv. 84.

— A. D. 1545.

The map in Medina's *Arte de navegar*, which is reproduced in the *Narrative and Crit. Hist. America*, vol. viii.

— A. D. 1546.

The so-called Henri II. map, of which the east coast is sketched in the *Nar. and Crit. Hist. America*, iii. 195, and the map of Johannes Freire, of which sketches are given in *Ibid.* iv. pp. 85, 86. Cf. in this history, iv. pp. 81-102, a section on "The Cartography of the northeast coast of North America, 1535-1600."

— A. D. 1547.

The Nicolas Vallard map, of which a portion is given in the *Nar. and Crit. Hist. America*, iv. 87.

— A. D. 1548.

The maps in the Ptolemy of 1548. See *ante*, under no. 58. The "Carta marina" is given in facsimile in the *Nar. and Crit. Hist. of America*, vol. viii.

— A. D. 1550.

Gastaldi's map in Ramusio, put about this date. There are facsimiles in the *Nar. and Crit. Hist. America*, iv. 91, and in Weise's *Discoveries of America*, p. 356.

See the maps belonging to the Riccardi palace, referred to *ante*, no. 93. The *Studi biog. e bibliog. soc. Ital. geog.* ii. 451, 452, mentions Portuguese atlases of the middle of this century preserved in the Bibliotheca Riccardiana, and in the Royal Library at Florence, which contain charts of the east coast of North America.

— A. D. 155-

A MS. map which belonged to Jomard, a sketch of which is given in the *Nar. and Crit. Hist. of America*, iv. 88.

182. A. D. 155-(?) From the Mississippi (?) River to 45° N.

A river "Rio de Flores" is apparently the Mississippi. The country is called "Terra del licencia dos Aulloh,"—thought by Kohl to be a corruption of Ayllon's name, of whose explorations the map is probably a record. It is from a MS. atlas (1556-1566) in the British Museum. A man, like a Chinaman, and an elephant are depicted in the interior.

183. A. D. 155-(?). From Nova Scotia to Texas.

From a MS. atlas in the Douce collection in the Bodleian library. Texas is called "Topira." The country north of the Gulf of Mexico is called "Galiguza." The general name of the continent is "Florida." A lion asleep is depicted in the interior.

— A. D. 155-(?)

A map of Martines in an atlas in the British Museum, ascribed to Martines. It is sketched in the *Nar. and Crit. Hist. America*, ii. p. 450. See *ante*, no. 63.

— A. D. 1554.

The Bellero map (see *ante*, no. 64), of which a facsimile is given in the *Nar. and Crit. Hist. America*, vol. viii.

Baptista Agnese's atlas of 1554 also shows the east coast in several maps.

— A. D. 1556.

The map of the two Americas in Ramusio shows the east coast of North America. It is in facsimile in the *Nar. and Crit. Hist. America*, ii. 228. Cf. *ante*, no. 66.

The map of Vopello mentioned under no. 66, *ante*. There is a facsimile of it in the *Nar. and Crit. Hist. America*, ii. p. 436.

— A. D. 1558.

In the atlas of Diego Homem in the British Museum. There is a sketch in the *Nar. and Crit. Hist. America*, iv. 92, and in H. H. Bancroft's *North-west Coast*, i. 50. See *ante*, no. 67.

— A. D. 1561.

Ruscelli's "Tierra Nueva" in the Ptolemy of 1561. See *ante*, under no. 69, and a sketch and references in the *Nar. and Crit. Hist. America*, iv. 92.

184. A. D. 1562. From Cape Breton to Florida, by D. Gutierrez.

From an engraved map, *America sive quarta orbis partis nova et exactissima descriptio. Auctore Diego Gutierrez, Philippi regis Hisp. cosmographo. Hieron. Cock excud. 1562.* In the "Ba. de S. Maria" is our Chesapeake, the "R. Salado" (Salt river) and "R. de S. Spirito" are relics of early Spanish visits to the Potomac region. The coast further north is as confused in outline and names, as usual, for this period.

185. A. D. 1565. Florida, etc., by Lemoyne.

This extends from the South Carolina to the Alabama coast, and the original is an engraved map in the *Brevis Narratio*, describing Laudonnière's expedition, as published in 1591 by De Bry. The Spanish names on the Carolina coast indicate that Lemoyne used Spanish drafts of that coast. A trace of the sea of Verrazano is seen at the north.

The map is reproduced in Gaffarel's *Floride Française*, in Shipp's *De Soto and Florida*, and in part in the *Nar. and Crit. Hist. America*, ii. 274.

— A. D. 1566.

The map of Nicholas des Liens in the Bibliothèque Nationale at Paris. It shows the coast from Labrador to Venezuela. It is sketched in the *Nar. and Crit. Hist. America*, iv. 79.

— A. D. 1566.

Zaltieri's map. See *ante*, under no. 69. There is a facsimile in the *Nar. and Crit. Hist. America*, ii. p. 451.

— A. D. 1568.

The map of Diegus in the Royal Library at Dresden shows the east coast.

— A. D. 1569.

The great Mercator map. The east coast is shown in the sketch in the *Nar. and Crit. Hist. America*, iv. 94 (also in ii. p. 452); and in a facsimile, *Ibid.* iv. p. 373, and also in Weise's *Discoveries of America*, p. 360, and in his *Hist. of Albany*, p. 4. See *ante*, under no. 71.

— A. D. 1570.

Ortelius's map of America. A sketch of the east coast is given in the *Nar. and Crit. Hist. America*, iv. 95. Cf. *ante*, no. 72. The map was repeated in later editions, 1575, 1584; re-engraved, 1587, etc.

— A. D. 1572.

Porcacchi's map, of which the east coast is shown in the sketch given in the *Nar. and Crit. Hist. America*, iv. 96. Cf. *ante*, under no. 72. Repeated in 1576, etc.

— A. D. 1573.

A Spanish mappemonde, given by Lelewel, i. pl. 7, shows the east coast.

— A. D. 1574.

Two maps of this date in *Theatri Orbis terrarum enchiridion* (1585) of Philippus Gallæus "per Hugonem Favolium illustratum," show the east coast.

186. A. D. 1578. From Florida to 45° N., by Martines.

From a MS. atlas (no. 15) in the British Museum. Kohl remarks on its inferiority to Ribero's map (1529), and says that the Spanish maps degenerated for a long time after Ribero. The country is called "La Florida." See sketch in *Nar. and Crit. Hist. America*, ii. 229.

187. A. D. 1578. East Coast by Martines.

A very inaccurate sketch of the coast from Labrador to the Gulf of Mexico, in which the peninsula of Florida and the gulf of St. Lawrence are only recognizable. The original belongs to a MS. atlas by Joan Martines in the British Museum. The main is called "Nova Spagna." The St. Lawrence river and the Hudson seem to unite and form a channel, making New England an island. There is a sketch of it in the *Nar. and Crit. Hist. America*, iv. 97.

188. A. D. 1578. The same.

A rough sketch.

— A. D. 1580.

The map of John Dee, in the British Museum. Cf. *ante*, no. 96.

— A. D. 1582.

Lok's map, which appeared in Hakluyt's *Divers Voyages*, and is reproduced in Winter Jones's edition of that book, and in the *Nar. and Crit. Hist. America*, iii. 40 and iv. 44, and in Weise's *Discoveries of America*, p. 7.

The map of the Mercator type in Popellinière's *Trois mondes* shows the east coast.

— A. D. 1585.

John White's map of the coast from the Chesapeake to the gulf of Mexico, preserved among the De Bry drawings in the British Museum, and first engraved for Dr. Edward Eggleston's paper in the *Century Magazine*, November, 1882. A sketch of it is given in the *Nar. and Crit. Hist. America*, iv. 45.

— A. D. 1587.

The map in Hakluyt's edition of Peter Martyr. Cf. *ante*, under no. 79.

The map (1587) in Johannes Myrtilius' *Opusculum Geographicum*, Ingolstadt, 1590.

189. A. D. 1590. Old Virginia by John White.

This shows Chesapeake bay and the North Carolina coast. This is the map by De Bry attached to the *Admiranda Narratio*, descriptive of the experiences of Raleigh's company in 1585. The map is inscribed, "autore Joanne With; sculptore Theodoro De Bry." Kohl believes With to be the same as Gov. White of that colony. Parts of the map are supposed to have been drawn from Ralph Lane's notes. There is a heliotype of it in the *Nar. and Crit. Hist. America*, iii. 124. Other facsimiles are given in the histories of North Carolina by Hawks and by Wheeler, and in Gay's *Popular Hist. of the United States*, i. 243.

The "Ould Virginia," in Smith's *Generall Historie* closely resembles this map, adding however the entrance to the Chesapeake at the north.

190. A. D. 1590. The same.

A rough sketch.

191. A. D. 1590. Roanoke Island and Albemarle Sound, by White.

The original of this is in the engraved series of White's drawings, published by De Bry. It is marked "The arrival of the Englishmen in Virginia" [1584]. See *post*, no. 202.

192. A. D. 1580. East Coast by F. Simon.

From Cape Breton to the Carolina coast. A sketch without annotation by Kohl.

193. A. D. 1592. East Coast from Molineaux's Globe.

From Florida to the St. Lawrence. The original globe is in the Middle Temple, London. Kohl calls it a curious mixture of Spanish and English sources. About Nova Scotia there are traces of a Portuguese nomenclature. Cf. sketch in *Nar. and Crit. Hist. America*, iii. 213.

— A. D. 1592.

Hood's map, reproduced in Kunstmann's *Atlas*, and the east coast sketched in the *Nar. and Crit. Hist. America*, iii. 197, with references, p. 196.

— A. D. 1593.

The map in the *Speculum Orbis Terrarum* of Cornelius de Judæis. It is sketched in the *Nar. and Crit. Hist. America*, iv. 97.

The map of the Mercator type in Maffei's *Historiarum Indicarum libri XVI.*

— A. D. 1594.

The map (1594) of Plancius in the Amsterdam edition of Linschoten, 1596. It was re-engraved in the Latin Linschoten (Hague, 1599).

— A. D. 1596.

De Bry's map. It is sketched in the *Nar. and Crit. Hist. America*, iv. 99.

194. A. D. 1597. East Coast by Wytfliet.

From Cape Breton to South Carolina. The original is an engraved map in Wytfliet's *Descriptionis Ptolemaicae Augmentum*, published in 1597. Kohl thinks it shows the earliest attempt at tracing the Alleghany Mountains. The parts of the coast above North Carolina are difficult to identify beyond a question.

Wytfliet's map of the coast of New Brunswick and Labrador is given in facsimile in the *Nar. and Crit. Hist. America*, iv. 100, and of Florida and Carolina coasts in *Ibid.* ii. 281, and his map of America, in *Ibid.* ii. p. 459.

— A. D. 1597.

The maps in the Ptolemies of this year (nos. 2, 29, 34, 35), published at Arnheim and Cologne, being the same edition.

— A. D. 1598.

The maps in the Basle edition of Münster's *Cosmographia*, and in the English (Wolfe's) edition of Linschoten.

— A. D. 1600.

The map of Quadus. See *ante*, no. 99.

The map of Molineaux, which was reproduced by the Hakluyt Society in 1880, and of which a sketch of the east coast can be found in the *Nar. and Crit. Hist. America*, iii. 216, iv. 377.

The map in Metullus's *America*, based on Wytfliet.

The map by Jodocus Hondius of about this time, which is reproduced in the Hakluyt Society's edition of Drake's *World Encompassed*.

— A. D. 1601.

The map in Herrera's *Descripcion de las Indias*.

— A. D. 1603.

A map by Botero in his *Relaciones*, of which a sketch of a part of the east coast is given in the *Nar. and Crit. Hist. America*, iv. 378.

— A. D. 1606.

The map in Cespedes' *Regimiento de Navigacion* (Madrid, 1606).

195. A. D. 1606. Champlain's Map of Chatham Harbor, Cape Cod.

This is taken from the 1613 edition of Champlain; and is reproduced in the Quebec and Boston editions of Champlain.

196. A. D. 1606. Champlain's Map of Gloucester Harbor, Cape Ann.

This is taken from the 1613 edition of Champlain; and is reproduced in the Boston and Quebec editions of Champlain.

197. A. D. 1606. Champlain's Map of St. Croix Island.

This is taken from the 1613 edition of Champlain. It is reproduced in the *Nar. and Crit. Hist. America*, iv. 137, as well as in the Boston and Quebec editions of Champlain.

— A. D. 1606.

Champlain's map of the harbor of Plymouth, Mass. It is reproduced from the 1613 edition, in the Quebec and Boston editions of Champlain, in the *Mag. of Amer. History*, in the *Nar. and Crit. Hist. America*, iv. 109, and in W. T. Davis's *Anc. Landmarks of Plymouth*, 35.

— A. D. 1609.

Lescarbot's map. Cf. *ante*, no. 165, and facsimile in *Nar. and Crit. Hist. America*, iv. 152, with another in the *Memorial Hist. of Boston*, i. p. 49. The same map reappeared in the editions of Lescarbot in 1611 and 1612, and in the English edition, called *Nova Francia*, in 1609. There are other facsimiles of the map in Tross's reprint of Lescarbot, in *Faillon's Colonie Française*, i. 85, and in the *Popham Memorial*.

Also his map of Annapolis Basin, Nova Scotia, reproduced in the *Nar. and Crit. Hist. America*, iv. 140, together with Champlain's (p. 141) of the same.

— A. D. 1610.

A rude map of the coast of New England and Acadia in the Poore Collection of French Documents in the State House, Boston; sketched in the *Nar. and Crit. Hist. America*, iv. 143.

— A. D. 1612-13.

The coasts of Labrador, Acadia, and New England are shown in Champlain's two general maps of 1612 and 1613, which, beside being reproduced in the Boston and Quebec editions of his *Works* and *Œuvres*, are given also in facsimile, with references, in the *Nar. and Crit. Hist. America*, iv. pp. 380, 381, 382.

— A. D. 1613.

The map in connection with De Quir's narrative in the *Detectionis Freti*, etc. Amsterdam, 1613.

The map of the new world in the Hondius-Mercator *Atlas* of 1613, and the special maps of Virginia and Florida.

The western hemisphere by Michael Mercator in the same.

The map of Johannes Oliva in the British Museum.

198. A. D. 1614. John Smith's New England.

Kohl followed the map in the *Generall History*, 1632. The map first appeared in his *Description of New England* (London, 1616). The same plate, successively changed or added to was used in later issues associated with Smith's name, and a collation of the map in all these issues shows that copies of it exist in at least ten different states of the plate. These are all indicated in the *Memorial Hist. of Boston*, i. p. 52, whence the detailed statement in Arber's edition of Smith is copied. The map was copied by Hulsius in 1617, was used several times by him, and one state or another of Smith's plate has been repeatedly reproduced in later days, as described in the *Mem. Hist. Boston*, to whose enumeration may be added the facsimile in the volumes of

The English Scholars' Library, edited by Edward Arber (London, 1884), entitled *Capt. John Smith: Works*; and the map called *Nouvelle Angleterre exactement décrite par le Capitaine Jean Smith dans les deux voyages faits en 1614 et 1615*, published at Leyden in 1780.

199. A. D. 1616. New Netherland.

This shows the coast from below Chesapeake Bay to beyond the Penobscot, and is the so-called "Figurative map," discovered in Holland by Brodhead. Portions of this map are shown in the *Nar. and Crit. Hist. of America*, iv. 433; Cassell's *United States*, i. 247; *Mem. Hist. Boston*, i. p. 57. The whole map is given in *Doc. relative to the Colonial Hist. of N. Y.* i. 13, and in O'Callaghan's *New Netherland*. See the section on early maps of New England in the *Nar. and Crit. Hist. America*, iii. p. 381.

200. A. D. 1618. Lescarbot's Florida.

From upper Florida to Port Royal. Taken from the plate in the 1618 edition of his *Nouvelle France*. Kohl says some of his errors respecting the region about St. Augustine were copied by De Laet (see *post*, no. 203). The "Rivière de May" is made to flow to the sea from a "Grand lac" in the interior. Lescarbot professes to have marked not a thirtieth part of the Indian villages, while he names those which he gives after their chiefs.

201. A. D. 1621. A. Jacobsz' Americæ Septentrionalis pars.

This is the engraved facsimile of a printed map in Dr. E. B. O'Callaghan's *Documents relating to the Colonial History of New York*, given as "from the West-Indische Paskaert, beschreven door A. Jacobsz [1621]," published at Amsterdam. It shows the coast from Labrador to the island of Trinidad, with the Central American coast on the Pacific side.

There is a sketch of a part of the east coast in the *Nar. and Crit. Hist. America*, iv. 383, and facsimiles are in Valentine's *New York City Manual*, 1858, and in the *Penn. Archives*, 2d ser. vol. v.

202. A. D. 1622. Roanoke by Strachey.

Though thus marked differently, this is the same map as no. 191.

— A. D. 1622.

The maps of the two Americas in Kasper von Baerle's edition of Herrera.

— A. D. 1624.

The map of the New England and Nova Scotia coasts, which appeared in Alexander's *Encouragement to Colonies*, was reproduced in Purchas's *Pilgrims*, iv. p. 1872, and is given in facsimile in the *Nar. and Crit. Hist. of America*, iii. 306.

203. A. D. 1625. Florida by De Laet.

This is from the original edition of De Laet in 1625, and includes the country from Virginia to the Mississippi. It was repeated in later editions, and is called "Florida et regiones vicinæ." The inland geography is based on De Soto's journey. The Mississippi is a bay, "Bahia del Spiritu Santo," fed by many streams. For Florida (peninsula) he seems to have depended on the accounts of Menendez, and for South Carolina on Lescarbot (see *ante*, no. 200). An interior lake (Lacus Magnus) may have grown

from some rumor, Kohl thinks, of Lake Erie, but it was in the Lescarbot's map in 1618. A facsimile of the North Carolina coast is given in the *Nar. and Crit. Hist. America*, iii. p. 125.

— A. D. 1625.

Brigg's map in Purchas's *Pilgrims*, iii. See *ante*, no. 167.

The map of Virginia and Florida in *Ibid.* iii. 869 (after Hondius).

— A. D. 1626.

The map of this date in Speed's *Prospect*, London, 1676.

204. A. D. 1630. From Carolina to Nova Scotia by De Laet.

This is the "Nova Anglia, Novum Belgium et Virginia" of De Laet's *Novus Orbis* of 1630. It seems to combine the results of the French, Dutch, and English explorations, and names in the corresponding languages appear along the coast. The Delaware rises in a large lake, which Kohl thinks may have been intended for Lake Ontario. The "Grand Lac" at the north would indicate some knowledge of Champlain's discoveries. Smith's map of Chesapeake bay and White's map of Virginia are followed in part. Portions are given in facsimile in the *Nar. and Crit. Hist. America*, iii. 125, iv. 436. Cf. sketch of De Laet's "Nova Francia et regiones adjacentes," in the *Nar. and Crit. Hist. America*, iv. 384.

— A. D. 1632.

Champlain's great map. See *ante*, no. 170.

205. A. D. 1634. William Wood's New England.

It shows the coast from York (Me.), to Narragansett Bay. This is the "South Part of New England as it is planted this yeare, 1634," belonging to Wood's *New England's Prospect*, London, 1634.

There are facsimiles in the *Mem. Hist. Boston*, i. p. 524; Palfrey's *New England*, i. p. 360; Young's *Chronicles of Mass.* 389, and separately reproduced by Wm. B. Fowle in 1846.

— A. D. 1634.

A MS. map of the Massachusetts Bay Colony of about this year, made apparently by Gov. Winthrop, found among the Sloane MSS. in the British Museum in 1884 by Henry F. Waters. A full size photographic facsimile was made for the Boston Public Library; a smaller, but less defective one, was made for the *Nar. and Crit. Hist. America*, vol. iii.

206. A. D. 1635. Maryland.

This is the "Nova Terræ-Mariæ tabula" which appeared in *The Relation of Maryland*, London, 1635. Smith's map is followed in the main for Chesapeake bay, with some details omitted, and others added. The names on the Potomac are those given by Lord Baltimore's colony, not by Smith. Cf. reproduction in the *Nar. and Crit. Hist. America*, iii. 525. It was followed in Ogilby's *America* (London, 1671). See *post*, under 1670-73.

— A. D. 1635.

The map "Nova Belgica et Anglia Nova" in the *Nieuwe Atlas* of Blaeu, Amsterdam, 1635, which was largely followed by Dudley.

The map "Partie méridionale de la Virginie et de Floride," published by Vander Aa.

— A. D. 1636.

The maps in the English edition of the *Mercator-Hondius Atlas*, translated by Henry Hexham, and printed at Amsterdam in 1636. Beside the general maps in vols. i. and ii., there are in vol. ii. special maps of Virginia, apparently following Smith; of the coast from the Chesapeake to Texas; while the map "Nova Anglia, Novum Belgium et Virginia" shows the coast from Nova Scotia to Carolina. The New England part is a mixture of Smith's draft and the Dutch maps. The Delaware rises in a large lake, which is connected by another stream with the Hudson.

207. A. D. 1638. New England, New Netherland, and Virginia by J. Jansson.

This closely resembles no. 204, and covers the same territory.

— A. D. 1646.

Maps by Petrus Kaerius, dated 1646, in Speed's *Prospect*, London, 1668. See *post*, under 1651.

— A. D. 1646.

Dudley's maps of the east coast in his *Arcano del Mare* are sketched in the *Nar. and Crit. Hist. America*, iii. 303, iv. 385. One of them was re-engraved in the *Documentary Hist. of N. Y.*

His *Arcano* contains the following special charts:

1. Gulf of St. Lawrence and adjacent parts (see *ante*, under no. 172).
2. The coast from Monhegan to Cape May.
3. The coast from Cape May to Florida.
4. Chesapeake Bay and the North Carolina sounds.

— A. D. 1650.

A map of the New England coast, of which a drawing is in the *Mass. Archives, Docs. Collected in France*, ii. 61, and a sketch in the *Nar. and Crit. Hist. of America*, iii. 382.

— A. D. 1651.

Map of this date in Speed's *Prospect*, London, 1676. See *ante*, under 1646.

— A. D. 1651.

Visscher's map of Delaware Bay, in Campanius, which is reproduced in Egle's *Pennsylvania*, 43, and in the *Nar. and Crit. Hist. America*, iv. 467.

— A. D. 1651.

The curiously distorted *Map of Virginia*, showing the coast from New England to North Carolina, by "Domina Virginia Farrer," published in London 1651, and reproduced in the *Nar. and Crit. Hist. America*, iii. 465. Cf. *Mass. Hist. Soc. Proc.* xx. 102.

— A. D. 1651.

Map of the Chesapeake based on John Smith's, in *Atlas Minor* published by Jansson at Amsterdam, vol. ii. p. 389.

— A. D. 1652.

The general maps of America by C. F. Visscher (autore N. I. Piscator), with the special map of New Netherland, which is reproduced by Asher. Cf. maps under no. 100, *ante*.

208. A. D. 1654. Lindström's New Sweden.

This is a map of the Delaware River and Bay, made by a Swedish engineer. It is given in the *Nar. and Crit. Hist. America*, iv. 481; *Nouv. Annales des Voyages*, Mars, 1843; *Penna. Hist. Soc. Memoirs*, iii.; *Gay's Pop. Hist. United States*, ii. 154.

The MS. map of Lindström was on a much larger scale, and this has been engraved in Reynold's edition of Acrelius.

— A. D. 1654.

A *Pascaert* published at Amsterdam has these maps of the coast:

- No. 13. From Labrador to the Chesapeake.
- No. 14. From Delaware Bay to Trinidad.
- No. 15. From Nova Scotia to Carolina.

209. A. D. 1656. Vanderdonck's New Netherland.

From the Delaware to beyond the Connecticut, with the valley of the Hudson. It accompanied Adrian Vanderdonck's *Beschrijvinge van Nieuw Nederland*, Amsterdam, 1656, and there is a heliotype of it in the *Nar. and Crit. Hist. America*, iv. 438, and facsimiles are in various other places there enumerated, as well as in Weise's *Hist. of Albany*, 47.

210. A. D. 1656. Sanson's Canada.

Shows the coast from Labrador to the Chesapeake. This is a preliminary sketch. Cf. *ante*, under no. 172. It is partly sketched in the *Nar. and Crit. Hist. America*, iii. 456; iv. 391.

— A. D. 1659.

Map in Petavius's (Petau's) *History of the World*. The coast charts in Doncker's *Zee-Atlas*, repeated in later editions.

The "Novi Belgii, novæque Angliæ necnon Partis Virginiae tabulæ" of N. L. Visscher, published at Amsterdam, 1659.

— A. D. 1660.

The map in Creuxius's *Historia Canadensis* shows the east coast. See *ante*, no. 173. This map is given in facsimile in Shea's *Mississippi*, p. 50, in the *Nar. and Crit. Hist. America*, iv. p. 389, and in Martin's transl. of Bressani's *Relation*.

— A. D. 1661.

The "Pascaerte van Nieu Nederland" in Van Loon's *Atlas* (no. 46), and the coast north of Boston in no. 45.

— A. D. 1662.

A map of the Carolina coast, as explored by William Hilton and drafted by William Shapley. A facsimile of the original in the British Museum is given in the *Mass. Hist. Soc. Proceedings*, December, 1883, p. 402, and a sketch in the *Nar. and Crit. Hist. America*, vol. v.

— A. D. 1662.

Map of the New England and New Netherland coast in the Blaeu Atlas, in the volume called *America, pars quinta*. It was repeated in the edition of 1685. There is a sketch in the *Nar. and Crit. Hist. America*, iv. 391.

— A. D. 1663.

The map of the new world of this date used in Heylin's *Cosmographie*, 1666, 1674, 1677.

— A. D. 1663.

A MS. map of the coast of Acadia, of which a copy is preserved in the Poore collection in the Mass. Archives, and is sketched in the *Nar. and Crit. Hist. America*, iv. 148.

— A. D. 1666.

A map of "De Noord Rivier" published at Middleburgh, and also in Goos's *Zee-Atlas*, shows the coast about New York harbor. It is reproduced in the Lenox edition of the *Vertoogh and Breden Raedt* and in the *Nar. and Crit. Hist. America*, iv. 440.

— A. D. 1666.

A map of the Carolina coast appended to *A brief Description of the Province of Carolina*, London, 1666. The map is reproduced in Hawks's *North Carolina*, and in *Gay's Pop. Hist. United States*, ii. 285.

— A. D. 1669.

The map "Amérique Septentrionale" of G. Sanson.

— A. D. 1670.

The map of the Carolina region given in John Lederer's *Discoveries*, London, 1672. There is a sketch of it in Hawks's *North Carolina*, and a facsimile in the *Nar. and Crit. Hist. America*, vol. v.

— A. D. 1670-73.

The maps in Montanus, Dapper, and Ogilby at this time were mainly from the same plates, but there were exceptions:

1. *De nieuwe en onbekende Weereld door Arnold Montanus*, Amsterdam, 1671. The map of America is marked "per Gerardum a Schagen," and represents the great lakes beyond Ontario merged into one. Some copies are dated 1670.

2. *Die unbekante Neue Welt . . . durch Dr. O. D.* (i. e. Olfert Dapper); the name of Montanus, from whom it is a translation, not appearing. It is published by the same Jacob von Meurs as no. 1, but omits the dedication to the Prince of Nassau, and has a different "privilegium" and a "Vorrede an den Leser," not in no. 1. It has the same map of America, but it is newly engraved, with different vignettes, and is marked "per Jacobum Meursium."

3. *America, being an accurate description of the New World*, London, 1670. This is mainly a translation of Montanus by John Ogilby, and notwithstanding the date (1670) in the title, there is a reference on p. 211 to the "present year, 1671." Most of the maps and engravings are from the plates used in nos. 1 and 2; but the map of America is an entirely different one, marked "per Johannem Ogilbium . . . F. Lamb, sculp." A part of this map is given in facsimile in the *Nar. and Crit. Hist.*

America, iv. 393. There is an extra map of the Chesapeake, of English make, beside the one taken from Montanus, and also English maps of Jamaica and Barbadoes, not in Montanus.

4. *America; being the latest and most accurate description of the New World.* This is made up of the same sheets as no. 3, with a new title and an appendix, not in no. 3. The maps of no. 3 are repeated.

The map in Richard Blome's *English Empire in America*, in which he followed Sanson.

Of about this date is a chart of the New England coast with soundings (measuring $5\frac{1}{2} \times 2\frac{3}{4}$ feet), found in 1884 by H. F. Waters in the British Museum.

— A. D. 1675.

A Dutch atlas of Roggerveen, published in several languages, known in English as the *Burning Fen*, contains various coast charts:

No. 1. Cape Breton to South Carolina.

No. 2. Newfoundland to New England.

No. 29. North Carolina, with Chesapeake and Delaware bays.

No. 30. The Delaware Bay, mouth of the Hudson, and Long Island.

No. 31. Narragansett to New York.

There are enumerations of Dutch *Zee-Atlassen* in the *Inventaris der Verzameling Kaarten berustende in het Rijks-Archief*, (s'Gravenhage, 1867), and in P. A. Tiele's *Nederlandsche Bibliographie van Land- en Volkenkunde*, (Amsterdam, 1884).

See *post*, no. 218, for Seller's map of New England.

— A. D. 1676.

The maps of New England and New York, in Speed's *Prospect*, based largely on the Dutch drafts; of Virginia and Maryland, based on Smith; and of the Carolinas.

— A. D. 1677.

The map in Hubbard's *Narrative of the Troubles in New England*, Boston, 1677, and London, 1677, — the latter plate being reproduced in Palfrey's *New England*, iii. p. 155, and in Judge Davis's ed. of Morton's *Memorial*.

— A. D. 1680.

A chart of the coasts of Maine, New Hampshire, Massachusetts, and New Plymouth (measuring $3\frac{1}{2} \times 2\frac{3}{4}$ feet), discovered in the British Museum by H. F. Waters in 1884.

— A. D. 1680.

A map of the New England coast in the French Archives, copied by Mr. Poore in the French documents (*Mass. Archives*), and sketched in the *Nar. and Crit. Hist. America*, iii. 383.

Maps of the New Netherland coast, including New England, much resembling one another, are found dating probably about this time, though the year is usually lacking, respectively assigned to Jansson, Schenck, Visscher, Danckers, Ottens, Allard, Seutter, etc. They are Dutch and German, and were probably occasioned by the temporary success of the Dutch at New Amsterdam in 1673.

211 and 212. A. D. 1682. **Wilson's Carolina.** (Two copies.)

Shows the coast from the Chesapeake to St. Augustine, with a corner map of the Cooper and

Ashley rivers. From a printed map belonging to Samuel Wilson's *Account of the Province of Carolina in America*, London, 1682. The map is called "A new Description of Carolina, by order of the Lords Proprietors." The book throws no light on the origin of the map, but Kohl suspects White's map may have been the basis of the North Carolina part, and Wm. Sayle's surveys have been used for the more southerly parts. Kohl says that the boundary line here given between Carolina and Virginia is the earliest instance of its being laid down in a map. The river May flows from a large "Ashley Lake."

It is also found in Chas. Deane's copy of Ogilby's *America*, and perhaps in other copies.

— A. D. 1683.

Hennepin's *Carte de la Nouvelle France* shows the east coast. See *ante*, under no. 179.

213. A. D. 1684. **Hack's Carolina.**

This map is very nearly identical with nos. 211 and 212, and is signed "Made by William Hack at the signe of Great Britaine and Ireland, near new stairs in Wapping. Anno Domini 1684." The original is a printed map.

— A. D. 1684.

Franquelin's great map shows the east coast. It is sketched in the *Nar. and Crit. Hist. America*, iv. 228. See *ante*, under no. 100.

— A. D. 1685.

The "Nova Belgica et Anglia nova" in Blaeu's *Atlas*. See *ante*, under A. D. 1662.

Minet's *Carte de la Louisiane* shows the east coast. It is sketched in the *Nar. and Crit. Hist. America*, iv. 237.

Map of New England in Seller's *New England Almanac*, of which there is a reproduction in Palfrey's *New England*, iii. 489.

See the map of New England and New York, given in Cassell's *United States*, i. 330, as dated 1684, and engraved by Michault.

— A. D. 1687.

The maps by Morden in Blome's *Present State of his Majesty's Isles and Territories in America*, London, 1687. The map of New England is reproduced in the *Papers concerning the attack on Hatfield and Deerfield*, New York (Bradford Club), 1859; that of Carolina is in the *Nar. and Crit. Hist. America*, vol. v.

— A. D. 1688.

The "Canada" of Coronelli, "Corrigée et augmentée par Tillemon," "partie orientale," published in Paris in 1688, and on a reduced scale in 1689, shows the east coast, after the Dutch drafts.

The map of New England in the Amsterdam editions (1688, 1715) of Blome is different from the one named *ante*, under A. D. 1687. That of 1688 is reproduced in the *Nar. and Crit. Hist. America*, vol. v.

— A. D. 1689.

A MS. map by Raudin in the collection of Mr. S. L. M. Barlow in New York.

— A. D. 1690.

A map of New England and New York, published in London by Thomas Basset about 1690. It has the characteristics of the prevailing Dutch cartography, and twenty-five copies have been reproduced in facsimile for J. Hammond Trumbull.

— A. D. 1691.

The map in Leclercq's *Établissement de la Foy*, which is reproduced in J. G. Shea's translation of that book.

214. A. D. 1696. Cotton Mather's New England.

The "Exact Mapp of New England and New York," contained in Mather's *Magnalia*, London, 1702, in which he speaks of his map under date of 1696. There has been a facsimile made of it. It is also reproduced in Cassell's *United States*, i. pp. 492, 516.

— A. D. 1697.

Hennepin's map in the *Nouvelle Découverte*. Allard's *Minor Atlas* of about this date contains: "Nova Belgica et Anglia nova," presenting the prevailing Dutch drafts.

"Totius Neobelgii nova tabula" gives the coast from the Chesapeake to the Penobscot, with a picture of New York after its recapture (1673).

"Nova Virginiae tabula," following Smith's map.

— A. D. 1698.

Gabriel Thomas's map of the New Jersey coast and Delaware Bay, which appeared in his *Account of Pennsylvania*, and is reproduced in Cassell's *United States*, i. 282, and in the *Nar. and Crit. Hist. America*, iii. 501.

— A. D. 1700. (?)

Courtenay in the *Charleston Year Book* (1883) places before 1700 "A new map of Carolina," of which he gives a facsimile.

A colored chart of about this date, showing the coasts of New France, New Scotland, and New England (measuring $1\frac{1}{2} \times 1\frac{1}{2}$ feet) found by Mr. H. F. Waters in the British Museum in 1884.

215. A. D. 1700. Province of New York.

It shows the country as far north as the Mohawk, from a little distance east of the Connecticut to a meridian west of Perth Amboy. It follows a map in the State Paper Office, London, marked: "A map of the Province of New Yorke in America by Augustin Graham, Surveyor-General," and is dedicated to Lord Bellomont. The last grant on the map is put down as in 1697, and Kohl conjectures the map must have been made about 1700. The grants distinguished are chiefly on the eastern side of the Hudson, and date from 1684 to 1697. It shows also the grant along both sides of the Mohawk River in 1697 to Godfray Dellius.

216. A. D. 1700. The same.

Another copy, less perfect, and without annotations.

— A. D. 1701-1721.

The maps in John Thornton's *Atlas Maritimus*.

— A. D. 1702.

The map in Campanius. See *ante*, under no. 100, and his more detailed map showing the coast from Maine to the Chesapeake, given also in facsimile in the *Nar. and Crit. Hist. America*, iv. 485.

217. A. D. 1709. Lawson's Carolina.

Shows the coast from Cape Henry to St. Augustine. It is copied from the map in John Lawson's *History of Carolina*, London, 1714. The first edition was in 1709, and the map is repeated in the German translation, Hamburg, 1712, 1722.

— A. D. 1709.

La Hontan's *Carte Générale de Canada* shows the New England and Acadian coast, and this part is given in facsimile in the *Nar. and Crit. Hist. America*, iv. 153.

218. A. D. 1711-? Seller's New England.

Shows the coast from the Kennebec to beyond the Connecticut River. It is called "A mapp of New England by John Seller, hydrographer to the King," and was made not long after 1700, as Kohl thinks. The original, which is more extended, is in Harvard College library, and a text accompanying it seems to be taken from Josselyn's *Two Voyages*. It is certainly not so late as Kohl puts it, since Josselyn's book was printed in 1674, and the map itself is mentioned in the *London Gazette* in 1676, as follows: "There is now extant a map of New England, as is now divided into three great colonies of Plymouth, Massachusetts, and Connecticut, with a printed description by John Seller."

— A. D. 1713.

The rude delineation of the east coast in Joutel's *Journal historique*, Paris, 1713. This map is reproduced in the *Mag. of Amer. Hist.* 1882, p. 185, and in A. P. C. Griffin's *Discovery of the Mississippi*, p. 20.

— A. D. 1718.

Nicolas de Fer's "Partie meridionale de la riviere de Mississippi" shows the Carolina and Florida coasts.

219. A. D. 1720 (?) Carolina.

This follows a MS. map preserved in the British State Paper Office, bearing no date, but evidently made after 1715. On it is marked:

"1. The way Coll. Barnwell marched from Charlestown, 1711, with the forces sent from S. Carol. to the relief of N. Carolina.

"2. The way Coll. J. Moore marched in the 1712 with the forces sent for the relief of North Carolina.

"3. The way Carol. Maurice Moore marched in the year 1713 with recruits from South Carolina.

"4. The way Carol. Maurice Moore went in the year 1715 with the forces sent from North Carolina to the assistance of S. Carolina. This march was farther continued from Fort Moore up Savano river, near a N. W. course, 150 miles to the Charokee Indians, who live among the mountains."

There is a sketch of the map in the *Nar. and Crit. Hist. America*, vol. v.

— A. D. 1722.

The map of "Nouvelle France" in La Potherie, repeated in the 1753 edition.

— A. D. 1728.

The *Atlas maritimus et commercialis* (London) has charts of Delaware and Chesapeake bays, the New England coast, the St. Lawrence gulf, and Boston Harbor.

220. A. D. 1730. Indian Map of South Carolina.

It is marked: "This map describing the situation of the several nations of Indians to the N. W. of South Carolina was copied from a draught, drawn and painted on a deer skin by an Indian cacique, and presented to Francis Nicholson, Esqr, Governour of South Carolina, by whom it is most humbly dedicated to his Royal High. George, Prince of Wales."

This is taken from the original in the British Museum.

— A. D. 1730.

The map by Herman Moll, attached to Davis Humphrey's *Hist. Acc. of the Soc. for propagating the gospel in foreign parts*, London, 1730. It has a marginal map of the South Carolina coast, which is reproduced in the *Nar. and Crit. Hist. America*, vol. v.; which may be compared with the map in Moll's *New Survey*, 1729 (no. 26), which is given in facsimile in Cassell's *United States*, i. 439.

221. A. D. 1733. Poppel's Boston Harbor.

See an enumeration of the maps of Boston Harbor in the *Memorial Hist. Boston*, vol. i. ii. and iii.

222. A. D. 1733. Poppel's Town and Harbour of Charlestown, S. C.

223. A. D. 1733. Poppel's Harbour of St. Augustine.

224. A. D. 1733. Poppel's New York and Perth Amboy Harbours.

Nos. 221 to 224 are marginal maps annexed to Poppel's great map of *The British Empire in America*, which has 14 other charts of harbors, beside 3 views of towns. It was first issued in 1732, and a reproduction appeared in Amsterdam about 1737. The *Catalogue of the British Museum MSS.*, no. 23,615 (fol. 72), shows a draft by Poppel of the English and French possessions, dated 1727.

— A. D. 1738.

The map of America in Keith's *Virginia*.

— A. D. 1741.

Moll's maps in Oldmixon's *British Empire*; also in edition of 1708.

— A. D. 1742.

The *English Pilot*, published at London, has various coast charts:

- Nos. 2. Newfoundland to Hudson's Bay.
3. Labrador to Cape St. Roque.
4. Another covering the same.
5. Newfoundland to Maryland.
6. Casco Bay by Cyprian Southicke (dated London, 1720).

7. Newfoundland coast by Henry Southwood.
13. Cape Breton to New York, with separate plan of Boston Harbor. Cape Cod is pierced at the angle.
14. New York Harbor and vicinity by Mark Tiddeman.
15. Chesapeake and Delaware bays.
16. Lower Chesapeake and the Virginia rivers.
19. Carolina and Charleston Harbor.

— A. D. 1746-1748.

D'Anville's "Amérique Septentrionale" (Paris); but a new draft with improvements was published at Nuremberg in 1756.

— A. D. 1747.

"America" in Bowen's *Complete System of Geography*.

— A. D. 1753.

Robert de Vaugondy's *Carte de Canada*.

— A. D. 1755.

Jeffery's *New Map of Nova Scotia*, etc., showing the coast from Labrador to Boston.

Lewis Evans' map of the *Middle British Colonies, with improvements by I. Gibson*, which is reproduced in Whittlesey's *Cleveland*.

John Huske's *Present State of North America*, 2d ed., London (1755), has a map showing the English claims and French encroachments.

William Douglass' *Summary of the British Settlements in North America*, Boston, reprinted London, has D'Anville's map "improved with the back settlements of Virginia." Cf. Sabin, xii. no. 47,552.

Various other maps were published at this time, occasioned by the controversy between the French and English governments as to the bounds of their respective possessions in America.

— A. D. 1757.

Carte de la Nouvelle Angleterre par M. B.

— A. D. 1764.

Map of North America by M., new ed. by Vaugondy, 1772, reproduced in the French *Encyclopédie*, Supplément, 1777.

— A. D. 1769.

Captain Cluny's map of North America in *The American Traveller*, reproduced in the French *Encyclopédie*, Supplément, 1777.

225. A. D. 1787. Franklin's Gulf-Stream.

It shows the coast from Labrador to Florida, and is endorsed: "This draft of that Stream was obtained from Capt. Folger, one of the Nantucket whalers, and caused to be engraved on the old chart in London, for the benefit of navigators, by B. Franklin." Kohl calls this the first attempt specially to indicate the Gulf Stream on a chart. The preferable track for sailing from New York to England is pricked on the chart. It is copied from an engraved map in Franklin's *Philosophical and Miscellaneous Papers* (London, 1787).

VII.

THE MISSISSIPPI VALLEY.

*** See also the maps in Sections II., III., and VIII.

— A. D. 1500, etc.

The earliest maps show what stands with some for the Gulf of Ganges, and with others for the Gulf of Mexico (as in the Admiral's, *ante*, no. 32, and Reisch's, *ante*, no. 33). They also show in the country north of this gulf, the region ultimately to be developed as the Mississippi Valley. We begin to have a rudimentary river, usually called "Rio de Spiritu Santo" as in the map of the gulf published by Navarrete (*post*, no. 247); and this representation of a great river, flowing into the north part of the gulf, can be traced down through various maps, like that of Cortes in 1524 (*post*, no. 248); of Maiollo in 1527 (*ante*, under no. 39); those of Ribero, 1529 (*ante*, no. 41); Mercator, 1541 (under no. 54); the Ulpius globe, 1542 (under no. 55); the Cabot mappemonde, 1544 (under no. 56); the Medina map of 1545 (no. 59); the map given in the *Nar. and Crit. Hist. America*, ii. p. 292; Beller's of 1554 (no. 64); Vopellio's of 1556 (under no. 66); Homem, 1558 (no. 67); Zaltière, 1566 (no. 94); Des Liens, 1566 (under no. 69); Dr. Dee's, 1580 (no. 96), and De Bry's, 1596 (cf. *Nar. and Crit. Hist. Amer.*, iv. 99).

Maps of the type of Mercator (no. 71), Ortelius, 1570 (no. 72), and Martines (nos. 75, 77) make the water-ways run across the continent.

We find the earliest special treatment of this river, in a kind of parallel network of streams, as shown in Wytfliet's *Florida et Apalche* (no. 264); and Wytfliet's draft is followed in a map of about 1622, *America noviter delineata*, *auct. Judoco Hondio, Johannes Fanssonius excudit*, and in another of 1636, called *Novissima et accuratissima totius Americae descriptio*, *per N. Visscher*.

Jefferys, in the map in his *Northwest Passage*, 1768, shows the course of the lower Mississippi by a dotted line, professing to engrave the map from the "Herrera of 1608;" but the maps in the early editions of Herrera do not have the dotted line.

226. A. D. 1656. Sanson's Mississippi.

It represents the mouth of the Mississippi as a bay ("Bahia del Espiritu Santo") into which various rivers empty, having their sources in a semi-circular range of mountains, of which one end extends towards the Florida peninsula, and the other is in Texas. The names within this belt of mountains are derived from the accounts of De Soto's march.

Later maps of Sanson follow this draft, as in his *Americæ Septentrionalis*, 1669.

227. A. D. 1673 Marquette's Upper Mississippi, showing the portages to Lake Huron.

It follows a sketch preserved in St. Mary's College, Montreal, and is copied from the engraving of it given in French's *Hist. Coll. of Louisiana*, iv. Dr. Shea first brought forward this map, in his *Discovery of the Mississippi*, in 1853; and he used the facsimile which he caused to be made for that book, in his edition of the Jesuit *Relations of 1673-79*; and it has since been reproduced in Douniol's *Mission du Canada* (with a sketch of a cabin on it, which does

not belong to it), Blanchard's *History of the Northwest*, Huribur's *Chicago Antiquities*, Andreas' *Chicago*, in the *Report of the U. S. Chief of Engineers*, 1876, vol. iii., and in the *Nar. and Crit. Hist. America*, iv. 220.

228. A. D. 1673. Marquette's Mississippi extended to the gulf.

This follows the map given in Thevenot's *Recueil de Voyages*, Paris, 1681, as Marquette's, but which was the work of the Jesuits. (Cf. HARRISSE, no. 202.) The sketch in the *Nar. and Crit. Hist. America*, iv. 221, is from the Parkman copy of the original map, which has now disappeared from the Bibliothèque Nationale in Paris. Sparks, in his *Life of Marquette*, copies the engraving in Thevenot, whose title differs from that of the Parkman copy. The *Catal. of the Library of Parliament* (Toronto), 1858, shows another copy. It is reproduced in Andreas' *Chicago*, i. 47, and in Breese's *Early Hist. of Illinois*.

— A. D. 1673.

Pays et peuple découverts en 1673 dans la partie septentrionale de l'Amérique par P. Marquette et Joliet, suivant la description qu'ils en ont faite, rectifiée sur diverses observations postérieures de nouveau mis en jour par Pierre Vander Aa à Leide.

— A. D. 1674.

Joliet's earliest map, *Nouvelle découverte de plusieurs nations dans la Nouvelle France en l'année 1673 et 1674*, showing the whole length of the Mississippi, and published by Gravier in colored facsimile, in an *Étude sur une carte inconnue*, which appeared in the *Mémoires du Congrès des Américanistes*, 1879, and in the *Revue de Géographie*, Feb. 1880. This reduced colored facsimile is given in the *Mag. of Amer. Hist.* 1883, and in A. P. C. Griffin's *Discovery of the Mississippi*; and there are sketches of it in Andreas' *Chicago*, i. p. 49; and in the *Nar. and Crit. Hist. America*, iv. p. 208.

Cf. a map in the Parkman Collection, of which there is a sketch in the *Nar. and Crit. Hist. America*, iv. p. 206.

— A. D. 1674.

Joliet's larger map is supposed to be lost. There is what is called a copy in the Barlow Collection of Maps, belonging to S. L. M. Barlow, Esq., of New York. A sketch of it is given in the *Nar. and Crit. Hist. America*, iv. pp. 212, 213. Cf. HARRISSE, *Notes sur la Nouvelle France*, no. 203. (See *ante*, no. 177.)

— A. D. 1674.

Joliet's smaller map is also in the Barlow Collection, and a sketch from it is given in the *Nar. and Crit. Hist. America*, iv. p. 214. Cf. HARRISSE, no. 204; Parkman's *La Salle*, p. 453.

Cf. for the Ohio valley, no. 3 of the Parkman maps, given in the *Nar. and Crit. Hist. America*, iv. p. 215.

— A. D. 1675.

The "Bahia del Spierto Santo" in Rogveen's *Burning Fen*, no. 19.

— A. D. 1679-1681.

Harris (nos. 209, 213-218) cites early maps of Franquelin for these years. Parkman attributes to Franquelin a *Carte de l'Amérique septentrionale, . . . avec les nouvelles découvertes de la Rivière Mississippi ou Colbert* (cf. Parkman's *La Salle*, p. 455; Harris, no. 219).

— A. D. 1682.

From a copy of Franquelin's map of this date in the Barlow Collection, a sketch is given in the *Nar. and Crit. Hist. America*, iv. 227. It shows the mouth of the Mississippi, but there is a blank northward from the mouth till the Ohio is reached.

229. A. D. 1682 (?). Franquelin's Mississippi.

After a MS. map in the Dépôt de la Marine at Paris, called "Carte générale de la France septentrionale . . . Faite par le Sieur Jolliet." It is dedicated to Colbert. On the margin is "Johannes Ludovicus Franquelin pinxit."

Harris (no. 214) puts this under 1681. It is sketched from the Parkman copy in the *Nar. and Crit. Hist. America*, iv. 218.

230. A. D. 1682. The Mississippi by Hennepin.

It shows the coast from Maine to Texas, and extends to 60° north. It has no annotations, and is marked "Rejected."

231. A. D. 1683. Hennepin's Mississippi.

It shows the coast from Labrador to Texas. This is after the map in the 1683 edition of Hennepin's *Description de la Louisiane*, in which he combined Marquette's travels with his own, and left the lower Mississippi a dotted line. It is called *Carte de la Nouvelle France et de la Louisiane*. It is given in part in facsimile in the *Nar. and Crit. Hist. America*, iv. 249, with references; and the whole map is reproduced in Dr. Shea's edition of Hennepin, and in Winchell's *Final Rept. Geol. Survey of Minnesota*, p. 6. Cf. Harris, no. 352.

— A. D. 1684.

Franquelin's great *Carte de la Louisiane*, of which a sketch is given in the *Nar. and Crit. Hist. America*, iv. 228, from a copy in the Parkman Collection of maps in Harvard College Library. (Cf. Parkman's *La Salle*, pp. 295, 455; Harris, no. 222; Thomassy, *Géologie pratique de la Louisiane*, p. 227.)

Harris (no. 223) refers to a *Carte de l'Amérique septentrionale* of De la Croix, which is assigned also to Franquelin.

— A. D. 1685.

Carte de la Louisiane, by Minet. It is sketched in the *Nar. and Crit. Hist. America*, iv. 237, with references, from a copy in the Barlow Collection (cf. Harris, no. 225).

232. A. D. 1688. The Mississippi by Franquelin.

It is called *Carte manuscrite de l'Amérique septentrionale par J. B. Louis Franquelin, Hydrographe du Roy en Canada. Québec en 1688*. It gives the Mississippi a wide zigzag course, and makes it debouch on the coast of Texas. Kohl has not annotated it.

It has been engraved for E. D. Neill's *History of Minnesota*, 1882; and this engraving is reproduced in the *Nar. and Crit. Hist. America*, iv. 230, 231, and in Winchell's *Final Report of the Geological Survey of Minnesota*, vol. i. pl. 2.

233. A. D. 1688. The Mississippi by Coronelli.

This is from Father Coronelli's published map, *America Settentrionale*, 1688. He seems to have been ignorant of Marquette's discoveries. The Missouri is not indicated. The "Ouabache" is about where the Ohio should be; and the "Ohio" runs parallel with it further south.

A sketch of the map by Coronelli, as corrected by Tilleman, Paris, 1688, is given in the *Nar. and Crit. Hist. America*, iv. 232. It was issued in two parts, — one of the eastern, the other of the western, portions of North America. These two were united in 1689 on a smaller scale.

— A. D. 1688.

Carte des parties les plus occidentales du Canada, par le Père Pierre Rafféix, S. J., — a MS. map in the Bibliothèque nationale of Paris, from a copy of which in the Kohl Collection a sketch is given with the marginal inscriptions in the *Nar. and Crit. Hist. America*, iv. 233. There is another copy in the Barlow Collection. Cf. Harris, no. 238.

There is in the Barlow Collection a map, which Harris (*Notes, etc.*, p. xxv. and no. 241) believes to be the lost original of a map by Raudin, Frontenac's engineer; and of this a sketch is given in the *Nar. and Crit. Hist. America*, iv. 235.

234. A. D. 1689. Lahontan's Long River.

This fabulous stream is represented as rising in the Rocky Mountains, and flowing into the Mississippi above the Missouri. Kohl thinks the river in question may have been the St. Peter's River. Lahontan professed to copy the western part of the river from an Indian map, made for him in that country.

This map appeared in the *Nouveaux voyages*, La Haye, 1709, vol. i. p. 136, and is reproduced in the *Nar. and Crit. Hist. America*, iv. p. 261.

235. A. D. 1689. Coronelli's Canada ou Nouvelle France.

It shows the coast from the Gulf of St. Lawrence to Texas, and gives the bounds between New France and the English possessions. Kohl thinks the present map a French imitation of no. 233.

— A. D. 1689-1699.

Harris (nos. 231, 232, 240, 248, 259) assigns various other maps to these years.

— A. D. 1691.

The map in Leclercq's *Établissement de la Foy*, which is reproduced in Dr. Shea's translation of that book.

— A. D. 1692.

Hubert Jaillot, who had inherited the plates of Nicolas Sanson, published in Paris what passes as Sanson's *Amérique septentrionale*, — the plate of which was long in use in Amsterdam and elsewhere.

236. A. D. 1698. Hennepin's Mississippi.

This shows the river carried to the gulf. It first appeared in Hennepin's *Nouvelle Découverte*, Utrecht, 1697, which had two distinct maps, showing the Mississippi extending to the gulf.

The first *Carte d'un très grand pais nouvellement découvert, etc.*, is reproduced in the *Nar. and Crit. Hist. of America*, iv. pp. 252, 253, and was repeated in the editions of the *Nouvelle Découverte*, printed at Leyden in 1704, and was re-engraved in the English edition, *Discovery of a large, rich, and plentiful country* (London, 1720), with English names.

The second, *Carte d'une très grand pays entre le nouveau Mexique et la mer glaciale*, was used in the later editions of 1698, 1704, 1711, etc., with changes in successive issues, and is reproduced in the *Nar. and Crit. Hist. America*, vol. iv. p. 251, and in Breese's *Early Hist. of Illinois*, p. 98.

237. A. D. 1698. The Mississippi by De Fer.

He follows Coronelli in making the "Ouabache" and "Ohio" parallel streams. Published in Paris in 1698.

— A. D. 1700.

Carte des Environs du Mississippi, envoyée à Paris en 1700. Cf. Thomassy, *Géol. pract. de la Louisiane*, pl. i.

— A. D. 1701.

De Fer's *Costes aux Environs de la rivière Mississippi.* Cf. Thomassy, p. 201.

— A. D. 1702.

Thomassy (*Géol. pratique de la Louisiane*, p. 209) refers to an original draft by Guillaume Delisle, *Carte de la rivière du Mississippi, dressée sur les mémoires de M. Le Sueur*, 1702, which is preserved in the Archives Scientifiques de la Marine.

— A. D. 1702.

The map in Campanius' *Nya Swerige* gives the lower portions of the river rudely. There is a facsimile in the *Nar. and Crit. Hist. America*, iv. 394.

— A. D. 1703.

Lahontan's *Carte générale de Canada*, which appeared in his *Nouveaux Voyages*, La Haye, 1703, and was repeated in some of the later editions. It was re-engraved in the *Mémoires*, Amsterdam, 1741, vol. iii. It is reproduced, with references, in the *Nar. and Crit. Hist. America*, iv. 258.

— A. D. 1705.

De Fer's *Le Canada ou Nouvelle France.*

— A. D. 1703.

The map of Delisle, showing the route of De Soto, and called *Carte de la Louisiane et du Cours du Mississippi*, published in Paris, and repeated in Garcilasso de la Vega's *Histoire des Incas, etc.*, Amsterdam, 1707, and in Delisle's *Atlas Nouveau*, Amsterdam, 1740. It is reproduced in French's *Hist. Collections of Louisiana*, ii. (dated 1707); in Gravier's *La Salle* (1870); in part, in the *Nar. and Crit. Hist. America*, ii. p. 295; in Cassell's *United States*, i. p. 475; in Winchell's *Final Rept. of the Geol. of Minnesota*, i. p. 20. See *post*, no. 238.

— A. D. 1712.

Louisiana am Fluss Mississippi in the German translation of John Lawson's *Carolina*, Hamburg, 1712.

— A. D. 1713.

Carte Nouvelle de la Louisiane et de la rivière de Mississippi . . . dressée par le sieur Joutel, belonging to Joutel's *Journal historique*, Paris, 1713. A part of this map is given in the *Mag. of Amer. Hist.*, 1882, p. 185, and in A. P. C. Griffin's *Discovery of the Mississippi*, p. 20. Cf. Thomassy, *Géologie prac. de la Louisiane*, p. 210.

The English translation of this, *A Journal of the Last Voyage performed by La Salle, etc.*, Paris, 1714, has a map showing the course of the Mississippi. (Cf. *Nar. and Crit. Hist. America*, iv. 240.)

— A. D. 1715.

Herman Moll's *New and Exact Map of the Dominions of the King of Great Britain*, has a lesser map attached, called *Louisiana, with the Indian Settlements and Number of Fighting Men, according to the Account of Capt. T. Nearne.*

— A. D. 1718.

Le Cours du Mississippi ou de Saint-Louis, par N. de Fer, embodying previous information, was made by direction "de la compagnie d'occident."

Partie meridionale de la rivière de Mississippi, par N. de Fer, extends north to the Illinois country.

238. A. D. [1719.] Delisle's Louisiana.

It shows the routes of De Soto and others. It is called *Carte de la Louisiane et du Cours du Mississippi*. It was followed by H. Moll in 1720, and Popple in 1732. Kohl says it is the earliest map to show the word Texas (Los Teijas), and to show the Cumberland and Tennessee Rivers.

Thomassy (*Géol. pratique de la Louisiane*, p. 211) refers to the June, 1718, map of Delisle. See *ante*, under A. D. 1703.

— A. D. 1719-20.

Thomassy gives a *Carte de la Côte de la Louisiane*, preserved in the Archives Scientifiques de la Marine in Paris, based on surveys made at this time by M. De Sérigny.

— A. D. 1720.

A new map of Louisiana and the river Mississippi, which appeared in *Some Considerations on the Consequences of the French settling Colonies on the Mississippi.* London, 1720.

Moll's *New Map of the North Parts of America*, 1720, follows Delisle's of 1718, for the Louisiana portion. It is reproduced in Lindsey's *Unsettled Boundaries of Ontario*, Toronto, 1873.

Gerard van Keulen published at Amsterdam a large map, *Carte de la Nouvelle France, où se voit le Cours des grandes Rivières Mississippi et St. Laurens*, with observations on French fortified posts.

De Beauvillier's *Carte nouvelle de la partie de l'ouest de la province de la Louisiane* (Thomassy, p. 214).

— A. D. 1722.

The "map of Carolana and the river Meschabebe" in Daniel Cox's *Description of Carolana*, London,

1727, and repeated in later editions. See *post*, no. 239.

— A. D. 1722.

La Potherie's *Carte générale de la Nouvelle France* in his *Hist. de l'Amérique septentrionale*, Paris, 1722, vol. ii., gives the misplacement of the mouths of the Mississippi which originated with La Salle.

— A. D. 1722.

Le Blond de la Tour's *Entrée du Mississippi en* 1722. (Cf. Thomassy, pl. iii.)

— A. D. 1724.

The "Carte de l'Amérique" in Lafitan's *Mœurs des Sauvages Américains*, Paris, 1724, vol. i. 24.

— A. D. 1724.

Plan particulier de l'embouchure du fleuve Saint-Louis, signed by De Pauger, royal engineer.

— A. D. 1726.

A "new map of Louisiana and the river Mississippi" in the *Memoirs of John Ker of Kerstrand*, London, 1726.

— A. D. 1729.

A map of New France and Louisiana in Herman Moll's *New Survey of the Globe*, no. 27.

— A. D. about 1730.

Amplissima regionis Mississippi seu Provinciae Ludoviciana a Hennepin detecta anno 1687, edita a Jo. Bapt. Homanno, Norimbergæ. Has a marginal view of "Catarrhacta ad Niagaram."

Homann was a cartographer of easy conscience, who seldom dated his maps, and this one is little better than a re-engraving of the map in Joutel's *Journal historique*. See *ante*, under A. D. 1713. It was reproduced by Homann's successors in his business, and again by William Darby in his *Geographical Description of Louisiana* (2d ed. 1817), and Thomassy (p. 2) censures Darby for his choice of an early map.

— A. D. 1732.

D'Anville's *Carte de la Louisiane dressée en 1732; publiée en 1752*. The upper part of it is reproduced in Andreas' *Chicago*, i. 59.

— A. D. 1732.

Popple's *British Empire in America* follows Delisle's map (1718) for Louisiana. It was reissued in 1733, 1740, and reproduced at Amsterdam in 1737. Sabin's *Dictionary*, xv. no. 64453.

— A. D. 1732.

Fleuve Saint Louis, ci-devant Mississippi, — a map preserved in the Bibliothèque Nationale, Paris, based upon observations made by Sieur Diron in 1719. (Cf. Thomassy, p. 212.)

— A. D. 1733.

The map in *Some Account of the Design of the Trustees for establishing the Colony of Georgia in America*. It shows the Atlantic Colonies stretching to the Mississippi River.

— A. D. 1737.

Le Cours du fleuve Mississippi, 1737, in Bernard's *Recueil de Voyages au Nord*, Amsterdam, 1737, in connection with Hennepin's narrative.

— A. D. 1740.

A map by Dumont de Montigny, *Carte de la province de la Louisiane, autrefois le Mississippi*, preserved in the Dépôt de la Marine at Paris, is said by Thomassy (p. 217) to be more valuable for its historical legends than for its geography.

239. A. D. 1741. **Coxe's Carolana.**

After the map in Daniel Coxe's *Carolana*, London, 1741. Kohl calls it the earliest English map of the Mississippi. Kohl thinks possibly Coxe may have had unknown charts of the delta. He accepts Lahontan's Long River. See *ante*, under A. D. 1722.

— A. D. 1743.

Nicolas Bellin, in Charlevoix's *Nouvelle France*, gives a *Carte de la Louisiane, cours du Mississippi et pays voisins*; and this, with the other maps, is reproduced in Shea's translation of Charlevoix.

Bellin's *Carte des embouchures du fleuve Saint Louis* is based on a draft by Buache (1732), following an original MS. (1731) preserved in the Archives Scientifiques de la Marine. (See *post*, under A. D. 1750.)

240. A. D. 1749. **Bonnecamps' Ohio River.**

After a map in the Ministry of the Marine at Paris, called *Carte d'un voyage, fait dans la Belle Rivière en la Nouvelle France, 1749, par le révérend Père Bonnecamps, Jésuite Mathématicien*. He has marked eight points where he took observations for the latitude, and sundry other places where he buried inscribed lead plates in token of possession for the king.

It also shows the Alleghany River from Lake Chataqua.

— A. D. 1750.

Bellin also has a map of this date, called *Carte de la Louisiane et des pays voisins*. It is said that the maps first published by Bellin were not thought by the French government sufficiently favorable to their claims for boundaries on the English colonies, and he accordingly reissued the maps with changes. When Governor Shirley, speaking with Bellin, referred to this, Bellin is said to have replied, "We in France must obey the king's commands." His map marking these bounds is reproduced in Bonnechose's *Montcalm et le Canada français*, 5th ed., Paris, 1882. (See *ante*, under A. D. 1743.)

— A. D. 1753.

Carte de la Louisiane, in Dumont's *Mémoires historiques de la Louisiane*, vol. i.

— A. D. 1755.

Bellin's *Carte de la Louisiane, 1750; sur de nouvelles observations on a corrigé les lacs et leurs environs*, 1755.

— A. D. 1755.

Canada et Louisiane par le Sieur le Rouge, ingénieur géographe du Roi, with a small map of the Mississippi River.

— A. D. 1755.

D'Anville's *Canada, Louisiane et les terres anglaises*.

— A. D. 1755.

Robert de Vaugondy's *Partie de l'Amérique septentrionale qui comprend le cours de l'Ohio, etc.*

— A. D. 1755.

A New and Accurate Map of North America, contained in John Huske's *Present State of North America*, 2d ed., London, 1755.

— A. D. 1755.

John Mitchell's *Map of the British Colonies in North America*, engraved by Kitchen, published in London, in 1755. Re-engraved at Amsterdam as a *Map of the British and French Dominions in North America*.

— A. D. 1757.

Carte de la Louisiane par l'auteur, 1757 in Le Page du Pratz's *Histoire de la Louisiane*, vol. i. 138.

— A. D. 1760.

Thomas Jefferys included a map of Canada and the northern parts of Louisiana in his *Natural and Civil History of the French Dominion in North and South America*. This same map, with the date 1762, was used in his *Topography of North America and the West Indies*. London, 1768.

— A. D. 1760.

Janvier's *L'Amérique*. It extends from Louisiana to the Pacific.

— A. D. 1762.

Jefferys' *Map of Canada and New France*. There is a facsimile in Mills's *Boundaries of Ontario*.

— A. D. 1764.

La Louisiane in Bellin's *Le Petit Atlas Maritime*, vol. i. no. 40, and *The Mouths of the Mississippi* in nos. 43 and 44.

241. A. D. 1767. Carver's Upper Mississippi.

This follows the map in Jonathan Carver's *Travels*.

— A. D. 1768.

The mouths of the Mississippi and neighboring coasts by Jefferys, in his *General Topography of North America and the West Indies*, which, he says, was taken from several Spanish and French drawings, compared with D'Anville's map of 1752, and with P. Laval's *Voyage à Louisiane*.

242. A. D. 1795. The Upper Missouri and Mississippi by Soulard.

The original is preserved in the Dépôt de la Marine in Paris. It was made for Colonel De Boulligny, of the Sixth Regiment of Louisiana, and taken to France in 1804 by M. Laussat.

243. A. D. 1801. An Indian Map of the Upper Missouri and its Affluents.

The original of this is preserved in the Archives of the Hudson Bay Company in London. Drawn by a Blackfoot chief in 1801, and taken to London by Peter Fidler. The range of the Rocky Mountains is marked, eleven of their peaks named, and the Pacific seacoast is drawn.

244. A. D. 1854. The Sources of the Mississippi River.

This is Schoolcraft's map given in his *Narrative*.

VIII.

THE GULF OF MEXICO AND WEST INDIA ISLANDS, WITH ADJACENT LANDS.

* * There are notices of maps of the mouths of the Mississippi in Section VII.; and the gulf appears in the maps of Sections II. and III.

245. A. D. 1463. Antilia by Benincasa.

This represents an early notion of land to the westward, the antetype of the Antilles. The chart is from a portolano, described in Santarem's *Hist. de la Cosmographie*, i. p. xlii; iii. p. 177. Cf. *ante*, under no. 21, where this map might have been entered, if it had been found in season.

246. A. D. 1500. La Cosa's map.

The western part of the La Cosa chart. Kohl has copied the drawing of it in Ramon de la Sagra's *Cuba* (Paris, 1837). See *ante*, no. 26, and the whole series of maps enumerated in section ii., for the form the gulf took in the earliest cartography, whether as a supposed Gulf of Ganges, as it is conjectured to be in the Admiral's (*ante*, no. 32) and other maps; or as undeveloped in the Cantino (1502), Ruysch (1508), Sylvanus (1511), and Waldseemüller (1513) maps; as vaguely shut in at the north by a land Bimini, shown in the Peter Martyr map of 1511, and in the Weimar map of the Pacific, of 1518 (*post*, no. 316); as an unenclosed archipelago, of which we have instances in the Lenox globe, and in the so-called Da Vinci mappemonde. It gets something like definite though distorted shape in the Stobnicza and Reisch maps, and in the Tross gores. Then in the Nordenskiöld gores, in the Schöner globes of 1515 and 1520, and in the Apian cordiform map of 1520, we have the same distorted shape, but joined with a westerly passage, which detaches South America as an island.

247. A. D. 1520. The Gulf of Mexico.

The map published by Navarrete in his *Coleccion*, iii., is reproduced in the *Nar. and Crit. Hist. America*, ii. p. 218, and in Weise's *Discoveries of America*, p. 278.

This is the earliest special map of the gulf, and the first to delineate it with approximate accuracy; and bears the title, *Traza de Costas de Tierra-firme y las tierras nuevas*.

Cf. the map of Ayllon's explorations, sketched in the *Nar. and Crit. Hist. America*, ii. p. 285.

248. A. D. 1524. Gulf of Mexico. (Cortes.)

The original engraving of this chart appeared in a letter of Cortes, addressed to the emperor, and

printed at Nuremberg in 1524. Kohl thinks it shows the explorations of Garay, and does not embody any of those of Cortes himself. He says it is the earliest map to show the name Florida. It may have been made about the time of no. 247. It is reproduced in Stevens' *Amer. Bibliographer*, p. 86; in his *Notes, etc.*, pl. iv.; and in the *Nar. and Crit. Hist. America*, ii. p. 404. It has an uncertain passage to the west, by which Yucatan is made an island, of which there is an indication in no. 247, and unmistakable expression in the Maiollo map of 1527 (*ante*, under no. 39), and is suggested in a map by Friess (*post*, no. 371). Later maps, like the Verrazano, 1529 (*ante*, under no. 42); Ribero, 1529 (*ante*, no. 41); the Lenox wood-cut, 1534 (*ante*, no. 47, since reproduced in the *Nar. and Crit. Hist. America*, ii. p. 223); the British Museum map of 1536 (*post*, no. 251), make Yucatan insular, but do not carry the passage to the western sea.

249. A. D. 1528. The Antilles.

Six separate maps of Jamaïqua, Cuba, Spagnola, Guadalupe, Dominica, and Martinina, from the *Isolario* of Bordone. Kohl follows a facsimile made for Henry Stevens (see *post*, no. 372).

— A. D. 1529.

A section of Ribero's map (*ante*, no. 41), showing the gulf, etc., is given in the *Nar. and Crit. Hist. America*, ii. p. 221.

250. A. D. 1534. Hispaniola.

From the engraved map in the 1534 edition (combined) of Peter Martyr and Oviedo. Kohl follows a facsimile given in Stevens' *Amer. Bibliographer*. See no. 256.

251. A. D. 1536. Gulf of Mexico.

From a large MS. map in the British Museum. Kohl says the language of the map is partly French and partly Spanish, the latter much corrupted; so that he infers it to be a French copy of a Spanish original. He thinks it may have grown out of the expedition of Narvaez, and says that the peninsula of Florida is for the first time drawn with approximate accuracy. Yucatan is an island. It is sketched in the *Nar. and Crit. Hist. America*, ii. p. 225.

252. A. D. 1542. The Antilles, by Rotz.

One of the maps in Rotz's *Boke of Idrography*, in the British Museum. The map is sketched in the *Nar. and Crit. Hist. America*, ii. p. 226. It is called "The Indis of occident, quahz the Spaniards doeth occupy." The latitudes are too high by about three degrees in the northern parts, and too low by about two degrees in the southern parts; making the distance from Trinidad to Florida much in excess of what it should be. (See *ante*, no. 55.)

— A. D. 1540-50.

Within this period may be placed the map, *Carta de las Antillas*, of which a facsimile is given in the *Cartas de Indias*, published by the Spanish government in 1877.

The map mentioned by HARRISSE in his *Cabots*, p. 185.

The so-called *Atlas de Philippe II.* (cf. *Nar. and Crit. Hist. of America*, ii. 222). See *ante*, under no. 52.

The 1541 Mercator goes (*Nar. and Crit. Hist. America*, ii. p. 177.

— A. D. 1544.

The gulf and neighboring portions of the Cabot mappemonde of 1544, are sketched in the *Nar. and Crit. Hist. America*, ii. pp. 227, 447.

253. A. D. 1547. Spanish America, by Nic Vallard.

This shows the coast of both oceans, from 35° N. to 10° S. latitude. It is from the MS. atlas in the Sir Thomas Phillipps Collection. Kohl conjectures that the Spanish drafts, apparently used in the making of this map, may have been those brought from the peninsula in 1542 by Don Miguel de Sylva.

Cf. the sketch from a MS. atlas in the Bodleian, given in the *Nar. and Crit. Hist. America*, ii. p. 292.

254. A. D. 1547. The same.

An inaccurate draft.

255. A. D. 1555(?). The Mexican Gulf.

This is a French map, and shows the Atlantic coast, from Maine to Honduras. The corresponding Pacific coast from about the latitude of Mexico (City), is a mere north-and-south line, with conventional river-mouths. Kohl says the original was discovered by Jomard in the possession of a French noble family. To judge from the absence of California one would place the map before (say) 1535; and the absence of traces of De Soto's and other explorations on the Atlantic side would indicate as early a date; but Kohl places it under "about 1555," as that was Jomard's opinion. Kohl is in error in supposing that the presence of Bermuda on the map establishes the date after 1530; since Bermuda is on the Peter Martyr map of 1511, a map unknown to Kohl. It is sketched in the *Nar. and Crit. Hist. America*, ii. p. 224.

256. A. D. 1556. Hispaniola. (Ramusio.)

From the engraved map in Ramusio, iii. (1556), who does not say whence he got it. It is reproduced in the *Nar. and Crit. Hist. America*, ii. p. 188, and seems to follow no. 250.

257. A. D. 1558. Spanish America by Diego Homem.

It shows the coasts of both oceans north of the Isthmus of Panama to 33° north latitude. A MS. map in colors in the British Museum. Kohl calls it the earliest general map to embody the California Peninsula. The "Rio del Spirito Santo" (Mississippi) has one main channel. It is sketched in the *Nar. and Crit. Hist. of America*, ii. p. 229.

258. A. D. 1564. Hispaniola by P. Forlano.

The engraved original is marked "In Venetia Paulo Forlano Veronese fec. 1564." It is not so accurate in form as the map of 1534; and it is not known whence Forlano drew his notions. (See *ante*, under no. 69.)

259. A. D. 1564. Cuba by Forlano.

Kohl calls this the oldest special map of Cuba which he had found. He finds names here which are preserved in the Hondius map of Cuba (1607). (See *ante*, under no. 69.)

— A. D. 1566-72.

The maps of Zaltiere (*ante*, no. 94) and Porcacchi (*ante*, no. 95) show how distorted a shape the gulf could assume even at so late a day as this. Cf. *Nar. and Crit. Hist. America*, ii. pp. 451, 453.

260. A. D. 1578. The Antilles by Martines.

It shows the Atlantic coast from 45° north to 3° south latitude. From the Martines Atlas of 1578 in the British Museum. The latitudes are approximately correct; but the longitudes are much out of the way, being stretched east and west too far. It is sketched in the *Nar. and Crit. Hist. America*, ii. p. 229.

261-262. A. D. 1597. Central America by Wytfliet.

This is from Wytfliet's Continuation of Ptolemy. See Winsor's *Bibliography of Ptolemy*.

— A. D. 1597.

The *Castilia del Oro* of Wytfliet is given in facsimile in the *Nar. and Crit. Hist. America*, ii. p. 190.

263. A. D. 1597. Mexico by Wytfliet.

From Wytfliet's Continuation of Ptolemy.

264. A. D. 1597. Florida et Apalache of Wytfliet.

From Wytfliet's Continuation of Ptolemy. It is given in facsimile in the *Nar. and Crit. Hist. America*, ii. p. 281.

— A. D. 1597.

Wytfliet's map of Cuba is given in facsimile in the *Nar. and Crit. Hist. of America*, ii. p. 230.

265. A. D. 1601. Mexico and Yucatan by Herrera.

From Herrera's *Descripcion de las Indias* (Madrid, 1601). The map closely agrees with the text of the same book, except that in the map he calls the City of Mexico 91° west long. [from Ferro?], and in the text he gives it as 103° from Toledo.

A portion of it is reproduced in the *Nar. and Crit. Hist. America*, ii. p. 392.

266. A. D. 1601. Antilles by Herrera.

A map which appeared in Herrera's *Descripcion de las Indias*, and considered by Kohl to be the best general map of the West Indies produced up to that time. They are called "Yslas de la mar del Norte."

267. A. D. 1630. Florida by Dudley.

Kohl takes this from Dudley's MSS. preserved in the Munich library, and not from Dudley's *Arcano del Mare*, as published in 1646.

— A. D. 1651.

Maps of New Spain, Cuba, and Hispaniola, in Jansson's *Minor Atlas*, ii. 393, 397.

268. A. D. 1671. Jamaica by Blome.

This is from Blome's *Present State of his Majesty's Isles and Territories in America*, London, 1687. It purports to follow surveys made by order of Sir Thomas Mediford, Bart., late governor of the island.

269. A. D. 1712. Pacific Coast of Mexico.

It covers the space 8° to 17° north latitude. The original was engraved by John Senex, and published in London, after a Spanish map said to have been captured by an English rover, Capt. Woodes Rogers. The engraved map appeared in Capt. Rogers's *A Cruising Voyage around the World*, 1708-11, London, 1712. The Spanish draft may have been made, as Kohl thinks, about 1700. See *post*, under no. 289.

270. A. D. 1767. Northern Mexico by Alzate.

This follows a MS. map in the British Museum, which professed to be drafted by José Antonio Alzate y Ramirez, after the best printed and MS. authorities. It shows the explorations of Father Kino about the Colorado and its affluents, and gives the northern extremity only of the Gulf of California. At the top of the map, under 43°, it shows the "Mar o Bahía del Vest," which Juan de Fuca explored. (See *post*, no. 289.)

271. A. D. 1778. New Mexico by Escalante.

A folded sheet, without annotations.

271^a. A. D. 1795. New Mexico by Juan Lopez.

From a Spanish printed map.

272. A. D. 1852. Anegada by Schomburgk.
(Virgin Islands.)

This follows surveys made by Sir Robert Schomburgk, published in the *Journal of the Royal Geographical Society*, ii. p. 152 (1852).

273. A. D. 1833. The Usumasinta River in Central America.

An engraved map in the Royal Geographical Society's *Journal*, iii. 59 (1833), prepared by Col. Galindo.

274. A. D. 1836. Costa Rica by Col. Galindo.

From the *Journal of the Royal Geog. Society*, vol. vi. (1836).

275. A. D. 1844. River Tabasco by Peter Masters.

From the *Journal of the Royal Geog. Society*, vol. xv. (1845).

276. A. D. 1853. Samana.

The Peninsula and Bay of Samana in the Dominican Republic, by Sir Robert H. Schomburgk, in the *Journal of the Royal Geog. Society*, 1853.

IX.

THE PACIFIC COAST OF NORTH AMERICA.

* * See *ante*, sections ii. and iii., and *post*, section x.

— A. D. 1513, etc.

Dr. Kohl printed an abstract of his studies on the cartography of the west coast of North America in the *U. S. Coast Survey Report*, 1855, p. 374, etc.; and there is a MS. on the subject by him in the library of the American Antiquarian Society at Worcester. The fullest information on the subject will be found in H. H. Bancroft's *North West Coast*, vol. i., and in the *Nar. and Crit. Hist. America*, ii. p. 431, etc.

We find the earliest delineations of this coast in 1513 from two sources, — first, from the Portuguese in their efforts to place the Moluccas in relations with the new continent, as shown in (*post*) nos. 315 and 316; and, second, from the maps which show the discovery of Balboa, either honestly recorded as in the Verrazano map of 1524 (*ante*, under no. 42), the Maiollo (1527, under no. 39), the so-called Ferdinand Columbus (1527, *ante*, no. 38) and Ribero maps (1529, *ante*, no. 41); or conjecturally extended as in Schöner's globes of 1515 and 1520 (*ante*, nos. 34, 35), the Apian mappemonde of 1520 (no. 36), the Thorne map of 1527 (no. 39), the Münster map of 1532 (under no. 46); or purposely left doubtful as in the map of Reisch's *Margarita philosophica*, 1515 (*ante*, no. 33), the Tross gores (under no. 32), and others.

— A. D. 1526.

The map of the monk Franciscus, making South America an island, identifies North America with Asia, and substitutes the southern coast of Asia for the west coast of North America. (Lelewel, *Glog. du Moyen Âge*, pl. xlvi.)

— A. D. 1530 (?)

The map in the Sloane MSS. (British Museum), illustrating the Asiatic theory of North America. (*Ante*, no. 43.)

The Turin atlas described in the *Jahresbericht des Vereins für Erdkunde in Dresden*, 1870, which leaves the northern extension of the coast uncertain. (*Ante*, no. 51.)

— A. D. 1532.

The cordiform map of Orontius Finæus, showing the Asiatic theory of North America. (*Ante*, no. 46.)

— A. D. 1532-40.

The map in Kunstmann, which does not go north of the California peninsula.

— A. D. 1534.

The Lenox wood-cut (*ante*, no. 47) does not go north beyond the limits of Central America.

— A. D. 1534-50.

The Italian mappemonde given in the *Jahresbericht des Vereins für Erdkunde in Leipzig*, 1871, which shows the coast as high as California.

— A. D. 1535.

Cortes' map of the coasts about the entrance of the Gulf of California, bought by the Rev. E. E.

Ilale in 1883 from the Spanish Archives, of which there is a heliotype in the *Nar. and Crit. Hist. America*, ii. p. 442.

— A. D. 1536.

The Agnese mappemonde, which shows the Central America and Mexican coasts. (*Ante*, no. 52.)

A MS. mappemonde in the British Museum, which extends the coast northward to California. (*Ante*, no. 52.)

— A. D. 1538.

A map in the Basle edition of Solinus and Pomponius Mela, which represents the western coast of America indefinitely as "terra incognita."

— A. D. 1539.

Plate xiii. in the Portolano of Charles V. (*ante*, under no. 52), which shows the Central America coast.

Plates iv. and xiv. of the same, which extend the coast above the peninsula of California.

— A. D. 1540 (?)

Homem's mappemonde, which extends the coast northward to the California peninsula. (*Ante*, no. 60.)

— A. D. 1540-50.

The Nancy Globe (*ante*, no. 61), which follows the Asiatic theory.

— A. D. 1540.

Münster's map in the Ptolemy of 1540, which conjecturally disjoins North America from Asia. (*Ante*, under no. 52.)

Apian's map in his *Cosmographia* shows a similar but distorted separation. (See *ante*, no. 62.) It was repeated in the Antwerp edition of 1545, and in the Paris edition of 1551. (See *ante*, no. 62.)

— A. D. 1541.

Mercator's map in gores, giving a conjectural western limit to North America. (*Ante*, under no. 53.)

— A. D. 1540-50.

An Italian portolano, now in the Carter-Brown collection, and noted in Quaritch's *Catal. of Hist. and Geography*, 1885, no. 362, under 28,159, which contains five maps showing the west coast of North America, as a part of the western hemisphere, viz.:

No. vii., which resembles a map in an Atlas in the Biblioteca Riccardiana (*Jahresbericht des Vereins für Erdkunde in Dresden*, 1870, pl. vi.), shows the Asiatic theory.

No. ix. brings out the California peninsula, but goes no farther north.

No. xi. is in gores, adheres to the Asiatic theory, and resembles pl. ix. of the *Jahresbericht*, etc.

No. xxvii. is confined to the Central America coast.

No. xxix. goes north to the peninsula of California.

277. A. D. 1541. Castillo's California.

The map published by Bishop Lorenzana in his *Nueva España* (1770), who found it among the archives of the descendants of Cortes. Domingo del Castillo was a pilot in the fleet of Alarcon, who explored the coast in 1540, and penetrated to the

head of the gulf of California and discovered the Colorado river. A large part of his coast names are not to be found in the accounts of Alarcon's expedition, nor in those of the explorations of Ulloa (1539).

Kohl speaks of this map of California as the earliest known; but he was not informed respecting the map mentioned above under A. D. 1535.

Castillo's map is given in facsimile in the *Nar. and Crit. Hist. America*, ii. p. 444; and is sketched in H. H. Bancroft's *Cent. America*, i. 153, and *North Mexican States*, i. 81. He gives the coast a greater extension beyond the peninsula than it has in the original.

— A. D. 1542.

The map in Rotz's *Idrography* shows the Central America coast. (*Ante*, no. 55.) See also the Ulpian globe under the same number.

— A. D. 1543.

The Gotha map of Baptista Agnese shows the Central America and Mexican coasts. (*Ante*, no. 56.)

— A. D. 1544.

The Cabot mappemonde carries the coast north only so far as the peninsula of California. (See under no. 56.) Cf. sketches in *Nar. and Crit. Hist. America*, ii. pp. 227, 447.

— A. D. 1545.

A conjectural coast, called "Temistitan," given in the mappemonde of Münster in his edition of Ptolemy. (*Ante*, no. 57.)

The map in Medina's *Arte de Navegar* shows only the Central America coast. It is repeated in the 1549 edition, *Libro*, etc. (*Ante*, no. 59.)

Cf. the mappemonde, said to be on Mercator's projection (?), put between 1545 and 1558, which is described in F. S. Ellis's *Catal.* 1884, no. 174.

278. A. D. 1546. Upper California by Juan Freire.

Part of a Portuguese portolano, which was in Santarem's possession when Kohl copied this portion and no. 279, its complement. The language is partly Latin, partly Spanish, but mainly a corrupt Portuguese. The drafts used by Freire were evidently, as Kohl thinks, those of Ulloa and Alarcon, though he must have had other material. He does not give any names corresponding to the accounts of the explorations of Cabrillo and Ferrero (1542-43). The coast is given a westerly trend, as if to connect it with Asia. Kohl judges that Freire had some drafts of a voyager who sailed westward, and at intervals lost sight of the coast.

279. A. D. 1546. Lower California by Juan Freire.

From the same map as no. 278. A legend on the map in two places credits Cortes with the discovery of this coast. Freire seems to have used Castillo's chart and the reports of Ulloa and Alarcon. See *Nar. and Crit. Hist. America*, ii. p. 448.

— A. D. 1548.

Gastaldi's map, numbered 59 in the edition of Ptolemy of this year, which follows the Asiatic theory; and the "Carta Marina" in the same. (See *ante*, under no. 58; and *Nar. and Crit. Hist. America*, ii. 435.)

An atlas of about this time in the Biblioteca Riccardiana at Florence is described in the *Fahresbericht des Vereins für Erdkunde in Dresden*, 1870, which has several maps showing the west coast of North America. The maps in Tab. vii. and ix. carry the coast north to the peninsula of California, and one of those in Tab. ix. carries it a little farther. Two maps in Tab. vi. illustrate the Asiatic theory.

— A. D. 1554.

The map of Bellerio shows the Central America and Mexican coasts. (*Ante*, no. 64.)

An atlas of Agnese (*ante*, under no. 64) gives maps showing the coast from the peninsula of California south.

— A. D. 1555.

A French map brought forward by Jomard shows a purely conventional west coast. (*Ante*, no. 255.)

— A. D. 1556.

The map in Ramusio extends north to the peninsula of California. (*Ante*, no. 66.)

The map of Vopellio in Girava's *Cosmographia* adheres to the Asiatic theory. (See *ante*, under no. 66.) There is a facsimile of the American part in the *Nar. and Crit. Hist. America*, ii. p. 436. Girava says he used a draft by Vopellio as the basis of the map, which is often wanting in copies of the book, whose value, according as the map is in facsimile or an original, has recently been fixed by Quaritch at £3 10 0 and £21. The edition of Girava in 1570 is the same, with the preliminary leaves reprinted.

— A. D. 1558.

The map of Homem carries the coast north to the California peninsula. (*Ante*, nos. 67 and 257.)

The map of Martines, placed usually somewhere in this decade (*ante*, no. 63) is one of the earliest to contract the water supposed to separate America from Asia to the dimensions of a strait. It is sketched and described in the *Nar. and Crit. Hist. America*, ii. 450.

— A. D. 1560.

The map of Forlani adheres to the Asiatic theory. (*Ante*, no. 69.) It is sketched in the *Nar. and Crit. Hist. America*, ii. 438.

— A. D. 1561.

A map of Honter illustrating the Asiatic theory. In Ruscelli's edition of Ptolemy (see under no. 69, *ante*), a map of the western hemisphere carries a definite coast line beyond the California peninsula, above which a dotted coast line is marked "littus incognitum." The map of "Nueva Hispania" develops the Gulf of California and adjacent coasts.

— A. D. 1566.

The map of North America by Zaltieri (*ante*, under nos. 69 and 94) shows the narrow strait as given in the Martines map (*ante*, under A. D. 1558). It is given in facsimile in the *Nar. and Crit. Hist. America*, ii. p. 451. The claim of Kohl that it is the earliest to show the straits of Anian compels the putting of a map of Martines later than here judged.

A map of Des Liens (*ante*, under no. 69) gives only the Central America coast.

— A. D. 1568.

The map of Diegus (Homem) turns the coast-line east a little distance above the head of the California peninsula. See *ante*, no. 70; and *Nar. and Crit. Hist. America*, ii. p. 449; iv. p. 92.

— A. D. 1569.

The great map of Mercator (*ante*, under no. 71). It established more effectually the type of the strait of Anian as prefigured by Martines and Zaltieri. It is sketched in the *Nar. and Crit. Hist. America*, ii. p. 452.

— A. D. 1570.

The Ortelius map follows Mercator's. (*Ante*, no. 72, and *post*, no. 324.)

— A. D. 1572.

The Porcacchi map also gives a similar strait of Anian. (*Ante*, under nos. 72 and 95.) It is sketched in the *Nar. and Crit. Hist. America*, ii. p. 453.

— A. D. 1574.

Forlani's map. (See *post*, no. 325.) The map in Gallæus' *Enchiridion* (*ante*, under no. 72) follows the Mercator type.

— A. D. 1576.

The map in Humphrey Gilbert's *Discourse* (*ante*, no. 74) has a coast little resembling any other map, but gives the strait of Anian.

280. A. D. 1578. California by Martines.

It shows the coast from 10° to 55° north, with "Giapan" and a part of the Asiatic coast. It is from the Martines Atlas in the British Museum, made between 1568 and 1578, at Messina, though Martines seems to have been a Spaniard. The outline of the gulf of California is much less accurate than in earlier maps.

This is a different atlas from the one of 155- (?), mentioned *ante* under A. D. 1558. A sketch of the Central America coast of the 1578 atlas is given in the *Nar. and Crit. Hist. America*, ii. p. 229.

— A. D. 1578.

The map in Best's *Frobisher* is rudely delineated. (*Ante*, no. 78.)

— A. D. 1580.

The map of Dr. Dee (*ante*, no. 96) carries the coast above 40° N. Lat.

— A. D. 1582.

Lok's map leaves the coast uncertain above the peninsula of California. (*Ante*, no. 97.)

The map of Popellinière's *Trois Mondes* is of the Mercator (1569) type.

— A. D. 1587.

The Myritius map follows the Asiatic theory. (*Ante*, no. 79.)

— A. D. 1587.

The Hakluyt-Martyr map carries the coast well up to the Arctic region. (*Ante*, under no. 79.)

281. A. D. 1592. California (Molineaux's Globe).

From the globe in the Middle Temple, London. Sir Francis Drake's track is pricked upon it, and is taken perhaps from Drake's charts, now lost. It shows Drake to have gone as far north as 48°. The general trend of the coast is more northerly than westerly, as on earlier maps. There is a sketch in the *Nar. and Crit. Hist. America*, ii. p. 455.

282. A. D. 1593. Northwest Coast by C. de Judæis.

A map from Cornelius de Judæis's *Speculum Orbis Terra*, 1593, and called "Quiviræ Regnum," which is the name on a protuberance of the coast line in 40° N. lat.; while a larger protuberance in 60° is called "Anian Regnum." Northwest of this last peninsula, under 70°, is a pinnacle-rock, in the sea, which marks the "Polus Magnetis." An inscription in the interior notes that oxen and cows, which have the hump of a camel, and the tail and feet of lions, frequent the woody plain. (*Ante*, no. 98.)

A map of the same date in the *Libri* of Maffei. (*Ante*, under no. 83.)

— A. D. 1597.

De Bry's map, giving the conventional view of the time. See enumeration *ante*, under no. 84.

The Arnheim edition of Ptolemy has the following maps showing the west coast of North America:—
No. 2, the western hemisphere, much like the Mercator type.

No. 28, the straits of Anian.

No. 29, a mappemonde, giving the west coast in the conventional manner of the period.

No. 32, the North Pacific, showing an indefinite "Pars Americae."

Nos. 34 and 35, the western hemisphere, with a Pacific coast of the Mercator type.

The map of Porro (*ante*, no. 85) distinguishes this edition from the Cologne edition of Ptolemy of the same year.

Wytfliet's continuation of Ptolemy contains several maps showing the west coast.

No. 1. The western hemisphere shows the straits of Anian. This map is given in facsimile in the *Nar. and Crit. Hist. America*, ii. p. 459.

No. 13. "Granata nova et California" develops the region of the California peninsula, and a facsimile of the map of the gulf is given in the *Nar. and Crit. Hist. America*, ii. 458.

No. 14. "Quivira et Anian," showing the region from Cape Blanco north.

— A. D. 1598.

The mappemondes in Wolfe's Linschoten and in Münster's *Cosmographia* of the current type for the west coast of North America. (Cf. *ante*, under nos. 84 and 86.)

The Italian Ortelius, published at Brescia, gives a map of the current type for this coast, and one which clings to the Asiatic theory, being about the last instance of such views.

— A. D. 1600.

The map in the *America* of Metellus has the Wytfliet type. (*Ante*, under no. 87.)

— A. D. 1601.

The maps of Herrera and Quadus. (*Ante*, nos. 88 and 99.)

283. A. D. 1602. The California Coast after Viscaino.

The coast from Cape Mendocino to Cape St. Lucas. It is composed from the 32 charts of the coast which Viscaino made, and which were deposited in the Spanish Archives, when the editors of the voyage of the Spanish vessels, "Sutil" and "Mexicana," brought the present sketch to light, basing it on those lesser charts.

Cf. sketch in *Nar. and Crit. Hist. America*, iii. p. 75; and reproduction in *Atlas para el Viage de las goletas Sutil y Mexicana* (1802), by Dionysio Alcalá-Galiano.

284. A. D. 1602. The same.

A less perfect sketch.

— A. D. 1603.

The maps in Botero's *Relaciones*,—one of the world, the other of the western hemisphere,—are of the Mercator type. The Italian edition was in 1595. (See *ante*, under no. 84.)

— A. D. 1604.

Buache engraved in 1754 a Spanish map of 1604, made at Florence by Mathieu Neron Pecciolen, which shows the gulf of California and adjacent coasts. It is also in the *Encyclopédie* published at Paris in 1777 (supplement).

— A. D. 1606.

The map in Cespedes' *Regimiento de navegacion* leaves the northwest coast partially indeterminate. (*Ante*, no. 89.)

— A. D. 1613.

The map illustrating the narrative of Ferdinand de Quir in the *Detectio Freti* of Hudson, edited by H. Geritsz, gives an unusual width to the straits of Anian.

The Mercator-Hondius atlas contains a map of the world, another of America, both by Hondius, and one of America by Michael Mercator. They all show the straits of Anian, but the protuberant coast of America has no marked feature except the gulf of California. Similar features mark the map of Hondius, which he based on the results of the voyages of Drake and Cavendish (*ante*, no. 91), and the map of Oliva (*ante*, no. 90).

— A. D. 1622.

The map in Kasper van Baerle's edition of Herrera is thought to be the earliest to return to the original belief that the peninsula of California was an island. The history of this latter belief is traced in the *Nar. and Crit. Hist. America*, ii. 461, etc. The same 1622 edition of Herrera at the same time repeats the map from the original edition of 1601, which presents the peninsular form for California.

— A. D. 1625.

The map accompanying the treatise by Briggs in Purchas's *Pilgrimes* (*ante*, no. 100). It is sketched in H. H. Bancroft's *North Mexican States*, i. 169. It makes California an island. Cf. H. H. Bancroft's *Northwest Coast*, i. 103, 104.

— A. D. 1626.

The map in John Speed's *Prospect* makes California an island, and carries the main coast above it by a dotted line.

— A. D. 1630.

The map in De Laet's *Nieuwe Wereldt*. (*Ante*, no. 92.)

285. A. D. 1630. Northwest Coast by Dudley.

From Dudley's *Arcano del Mare*, 1630. Kohl judges from the original MS. draft of this map preserved in Munich, in which the latest date mentioned is 1621, that Dudley made this map but a few years later. Dudley seems not to have been aware of Viscaino's drafts. His inscriptions credit the discovery of the coast, which he calls "Regno di Quivira," to Sir Francis Drake in 1579. He shows "Asia" on the west edge of the map, as "La grand isla di Jezo," and his notes at Munich say that Dudley got his knowledge of that region from the Jesuits in Japan. See facsimile in *Nar. and Crit. Hist. America*, ii. p. 465. This is plate no. xxxiii. Plates xxxi. and xxxii. represent California as a peninsula. In his *Liber ii.* (p. 19), a map of "Nuova Albione" extends from a vague "golfo profondo" (with an "I. de Cedros" at its entrance) to Cape Mendocino.

Kohl gives 1630 as the date of the *Arcano*, but no earlier edition than 1646 has come under my observation; though the book in a smaller shape and of that earlier date is said to exist.

286. A. D. 1630. Gulf of California by Dudley.

This is, as Kohl says, from the MSS. of Dudley at Munich, and not from his *Arcano del Mare*. The names are mostly Italian, but a few are in Spanish. He represents California as a peninsula. It does not appear whence he got his views.

— A. D. 1635.

The Saltonstall English edition of the Hondius-Mercator atlas has a map of America, which is a reduction from the map in the 1613 edition of the atlas.

— A. D. 1636.

The Hexham English edition of the Hondius-Mercator atlas has two maps showing the west coast of North America. In both California is an island; in one there is, and in the other there is not, a break in the main coast line opposite the head of the island.

— A. D. 1637.

A map in *Le Monde* of D'Avity, sketched in H. H. Bancroft's *Northwest Coast*, i. 108.

— A. D. 1640.

The alleged explorations of Bartolomé de Fonte at this time gave rise, after the publication of the story in 1708, to various conjectural maps of the west coast of North America, prominent among which are the renderings of Delisle and Buache, 1752-53, and the map of Jefferys.

The indications of this venturesome cartography are noted in H. H. Bancroft's *Northwest Coast*, vol. i., and in the *Nar. and Crit. Hist. America*, ii. p. 462, 463. See *post*, under A. D. 1752-53.

— A. D. 1646.

Dudley's *Arcano del Mare*. See *ante*, nos. 285, 286.

The two maps of Petrus Kœrius (1646) in Speed's *Prospect of the most Famous Parts of the World* (London, 1668), show the geographical confusion of the time. In one California is an island, with a fixed coast above, to the straits of Anian; in the other, California is a peninsula, and there are alternative coasts north of it, in half-shading.

— A. D. 1651.

A map in Jansson's *Atlas Minor* makes California a peninsula, indicates north of it a doubtful passage to the north sea, and further west delineates the "Fretum Anian."

A map in Speed's *Prospect* (edition of 1676) makes Cape Mendocino the northern point of California island, with a break in the coast of the main land opposite, while another Cape Mendocino is drawn still further north.

A map of Virginia by Virginia Farrer (facsimile in *Nar. and Crit. Hist. America*, iii. 465) makes the coast of New Albion (Drake's) lie at the base of the western slope of the Alleghanies, narrowing the continent to a few days' journey.

— A. D. 1652.

Maps of the same cartographer, called in one N. I. Visscher and in the other N. I. Piscator, make California a peninsula, and indicate the straits of Anian.

— A. D. 1655.

Wright in his *Certain Errors in Navigation* has an insular California.

287. A. D. 1656. Sanson's California.

California is shown as an island, a view, as Kohl thinks, introduced by Purchas (*ante*, under A. D. 1625; but see under A. D. 1622) in the map which he gives as found among some Spanish charts captured by the Hollanders. The country inland is called "Nueva Mexico" in the north, and "Nueva Granada" in the south. The "Rio del Norte," on which Santa Fé is placed, runs into the gulf of California; and this river continued to have this course given to it till Coronelli, as Kohl says, directed it to the gulf of Mexico. The map is reproduced in the supplement of the French *Encyclopédie* for 1777.

Sanson repeated his draft in 1657, making the main coast end with "Aguhela de Cato;" and in his *L'Amérique* (1657-83) he puts a "Terre de Jesso" northwest of the insular California.

— A. D. 1659.

The map in the *Hist. of the World* by Petavius (Petau) gives an insular California and the usual break in the main coast opposite its northern extremity.

— A. D. 1661.

In Van Loon's sea-atlas the map "Nova Granada en l'Eylandt California" gives a strait of Anian a little higher up than the island, and puts a "Terra incognita" beyond it.

— A. D. 1663.

The map "Americæ nova descriptio" in Heylin's *Cosmographie* (1669, 1674, 1677) carries above a point

opposite the head of the island of California a dotted line, which, farther above, branches in three conjectural directions.

— A. D. 1670-71.

Blome follows Sanson. In Montanus and Ogilby, California is an island (*ante*, section vi., A. D. 1670-73). Ogilby's map is sketched in H. H. Bancroft's *Northwest Coast*, i. 110.

— A. D. 1683-1704.

Hennepin sometimes makes California an island, sometimes a peninsula. Blacu about this time had the same hesitancy.

288. A. D. 168-? New Mexico by Coronelli.

An imperfect draft, without Kohl's annotations. It represents California as an island. The "Rio del Norte" becomes the "Rio Bravo," and flows to the Mexican gulf. ✓

Coronelli's globe of 1683 makes California an island.

— A. D. 1684.

Franquelin's great map shows only a part of California, but he marks it as an island. (*Ante*, section iii., A. D. 1681-84.)

— A. D. 1694.

Jaillot has California an island, with "Terra de Jesso" northwest of it. (*Post*, no. 328.)

— A. D. 1695.

A map of Guillaume Delisle represents a "Mer de l'Ouest" lying on the parallel from Cape Mendocino to Lake Superior, but he gives it no defined connection with the Pacific, while the straits of Anian are delineated with coast lines extended but a short distance on either side. This map was published by the younger Delisle in 1752.

About the close of the century Covens and Mortier of Amsterdam published what are known as the Carolus Allard atlases. One of these represents California as an island, and a "Terra Esonis" north of it, with a strait at either extremity, — that on the west separating it from "Yedso," apparently a part of the Asiatic coast.

— A. D. 1698.

Edward Wells in his *New Sett of Maps* gives the island of California with a "supposed straits of Anian" just north of its upper end, but he omits all coast lines above it.

— A. D. 1700.

Delisle makes California a problematical peninsula.

289. A. D. 1701. Gulf of California by Father Kino.

Shows the results of the explorations of Father Kühn, — a German, whose name was changed by the Mexicans to Kino, as Kohl says, — instigated by the Jesuit Salvatierra. The map shows the convictions of Kino, that California was a peninsula, rather than a demonstration from his own explorations. He published his map originally in the *Lettres Édifiantes*, vol. v. (1705), and it is called "Passage par terre à la Californie. Decouvert

par le Rev. Père E. F. Kino, Jesuite, depuis 1698 jusqu'à 1701."

See Father Kino's explorations indicated in the map of Alzate. (*Ante*, no. 270.)

Kino's map was re-engraved by Buache in Paris (1754), by Sayer in a map of North America published in London, in the supplement of the French *Encyclopédie* (1777), by Marcou in *Report of the Chief of Engineers, U. S. A.* (1878), and in H. H. Bancroft's *North Mexican States*, i. 499. Cf. *Nar. and Crit. Hist. America*, ii. p. 467.

— A. D. 1705.

The map in Harris's *Collection of Voyages*, reproduced in H. H. Bancroft's *Northwest Coast*, i. 114. California is an island.

— A. D. 1707.

Vander Aa's map is sketched in H. H. Bancroft's *Northwest Coast*, i. 115.

— A. D. 1712.

A Spanish map of the Pacific coast of Mexico is described, *ante*, no. 269.

— A. D. 1715-1717.

Delisle varied in his drafts of California, being undecided on the evidence; and in the latter year, while he made it a peninsula, he cut the coast line north of it by a great gulf, "Mer de l'Ouest," extending inland indefinitely.

— A. D. 1719.

Homann of Nuremberg made an insular California, with an entrance to a supposed gulf opposite with an island in the middle of the passage.

— A. D. 1720.

The *Atlas geographicus* of Sentter, Augsburg, retains the Californian island, separated by a passage, "Fretum Anian hic esse creditur," from "Terra Essonis."

— A. D. 1726.

The map in Shelvocke's *Voyages* professed to represent current opinion in making California an island. Similar maps about this time were issued by Vander Aa of Amsterdam.

— A. D. 1727.

Herman Moll, the English geographer, gives the island and the straits north of it, with no coast line beyond.

— A. D. 1728.

The map in Herrera, making California a peninsula, carries the coast up to Cape Mendocino.

290. A. D. 1740. The California Coast.

A map of the North Pacific was found by Anson in 1742, on board a Spanish ship captured by him on the China coast. It was engraved on a reduced scale in Anson's *Voyage Round the World*, London, 1748. It was next embodied by Jefferys in his map of the North Pacific, and of this the present map is a copy. Jefferys, however, made some additions to the original Spanish map. He says of this proto-

type, that it is scarcely reconcilable with other charts and journals, as to the names and situations of places. The English cartographer also pricks out the tracks across the Pacific of Gaetan (1542), Mendana (1568), Francisco de Gualle (1583), Cavendish, Spilbergen (1616), Fronolat (1709), and of the track each way of the "Nuestra Señora de Cabodonga" (1743), the ship captured by Anson. Jefferys calls the northern parts of the coast the Chinese "Fou-sang," while Kohl believes that debatable region to have been Japan.

— A. D. 1741.

Oldmixon's *British Empire in America* still gave an insular California, with a dotted coast line above, broken by the straits of Anian, — as drafted by Moll.

H. H. Bancroft's *Northwest Coast*, i. 124, gives a Russian chart.

291. A. D. 1743. California.

The map mentioned under no. 290, as engraved in Anson's *Voyages*.

— A. D. 1743.

Bellin's map in Charlevoix makes California a peninsula, with a break in the coast farther north marked "Aguilar." He supposes an interior network of waters connecting Hudson's Bay and Lake Superior with the Pacific, at some point still farther north. Cf. the map in Bonnechese's *Montcalm et le Canada français*, Paris, 1882.

— A. D. 1744.

Map in Arthur Dobb's *Account of Countries Adjoining Hudson's Bay*. The Pacific coast above Cape Blanco is marked as unknown, but a passage called Rankin's Inlet is supposed to connect with Hudson's Bay. There is a sketch in H. H. Bancroft's *Northwest Coast*, i. 123.

292. A. D. 1746. The Gulf of California by Consag.

The Jesuit father, Fernando Consag, explored the eastern coast of the California peninsula, and making the circuit of the north end of the gulf, reached the Colorado river, and proved for the first time by actual observation that California was a peninsula. The present is Consag's map of the gulf, made after his explorations. It is sketched in H. H. Bancroft's *North Mexican States*, i. 463, and his *Northwest Coast*, i. 125, 126.

— A. D. 1746.

A map published by the successors of Homann retains the peninsular California with the entrance above, marked "Aguilar."

Another German map published by Covens and Mortier, *Introduction à la Géographie*, gives an insular California, with a "Detroit d'Anian," supposed to connect, through a "Mer glaciale," with Button's Bay, a part of Hudson's Bay.

— A. D. 1747.

The maps in Bowen's *Geography* give a peninsular California with indications of a strait above Cape Mendocino, but the parts above are marked "undiscovered."

— A. D. 1748.

Bellin connected Lake Superior with the Pacific by a chain of waters.

— A. D. 1750.

Robert de Vaugondy in his *Amérique Septentrionale* makes California a peninsula, and marks a passage above as discovered by Martin d'Aguilar.

— A. D. 1752-53.

Delisle and Buache were making maps of the coast above the peninsula of California, cut up fantastically with passages of one kind and another, connecting the Pacific with the Great Lakes and Hudson's Bay, in vain attempts to reconcile with positive knowledge the accounts of Maldonado, De Fuca and De Fonte. Delisle's map is reproduced in H. H. Bancroft's *Northwest Coast*, i. 128.

The "Mer de l'ouest," supposed to be an interior sea, reached by passages from the Pacific, figures largely in these maps, and the imaginary draft of it by Buache is reproduced in J. B. Laborde's *Mer du Sud*, Paris, 1791, and in the supplement of the French *Encyclopédie*, 1777. Cf. Dobb's *Northwest Passage* (1754). Other cartographical solutions of this problem will be found in Samuel Engel's *Mémoires sur la situation des pays septentrionaux* (Lausanne, 1765); in his *Extraits raisonnés des Voyages faits dans les parties septentrionales de l'Asie et de l'Amérique* (Lausanne, 1765, 1779); and in William Doyle's *Account of the British Dominions beyond the Atlantic* (London, 1770).

See *post*, nos. 334, 339.

293. A. D. 1753. The Northwest Coast, by T. Jefferys.

From Cape St. Lucas to 60° n. lat. An incomplete sketch. Shows New Albion and the discoveries of Drake. A supposed large island to the west in mid ocean is marked as seen or suspected to exist by Behring in 1728, and Tschirikow in 1741. He gives a river supposed to connect the Pacific with lake Winnipeg.

294. A. D. 1758. Alaska.

Map of discoveries made by Russian vessels, which was published by the Academy at St. Petersburg in 1759, showing the voyage of Behring and Tschirikow. The Aleutian islands are shown as combined to form a supposable broad peninsula. The "Rivière de los Reyes de l'Admiral de Fonte" (1640) is marked "pretenda;" and the inlet held to be found by De Fuca in 1592 is indicated, but not continued inland. The entrance found by d'Aguilar in 1603 is made by dotted lines to connect with the "R. de l'Ouest."

— A. D. 1760.

An entrance to an interior passage in the northwest is given in *L'Amérique par les S^{rs}. Sanson, rectifiée par le S^r. Robert*. It is given in Vander Aa's *Galerie agréable du Monde*, vol. i.

— A. D. 1761.

H. H. Bancroft's *Northwest Coast*, i. 130, gives a Japanese map.

— A. D. 1762.

Jefferys in delineating the northwest coast puts an entrance supposed to have been found in 1592 by Juan de Fuca to the south of "Fousang."

Janvier in the *Atlas Moderne* indulges in all the freaks that Delisle and Buache had made in dealing with the alleged voyages of De Fonte and the others.

— A. D. 1763.

The "Mer de l'Onest" and other uncertainties are found in the *Carte d'Amérique pour l'usage du Roi en 1722 par Guil. Delisle, augmentée par Phil. Buache*, Paris, 1763.

— A. D. 1767.

Map by Alzate (*ante*, no. 270). A Jesuit map of the peninsula of California in the supplement of the French *Encyclopédie*, 1777.

— A. D. 1768.

Jefferys' map of the De Fonte narrative, given also in the supplement of the French *Encyclopédie* (1777), and in H. H. Bancroft's *Northwest Coast*, i. 131.

— A. D. 1772.

Vaugondy's *Carte de la Californie*, reproduced in the supplement of the French *Encyclopédie* (1777).

— A. D. 1774-1790.

Copies of maps in the Hydrographic Office, Madrid, now in the Department of State, Washington, marked *Viages de los Españoles a la costa noroeste de la America en los años de 1774-1775-1779, 1788 y 1790*.

295. A. D. 1775. Upper California by Maurelli.

The chart of Antonio Morelli, who accompanied an expedition sent out in 1775 by the Viceroy of Mexico. Bodega, who commanded one of the vessels, discovered a harbor just north of San Francisco, and named it after himself. Kohl copies in this a transcript of a chart preserved in the Spanish Archives, which transcript, attested by Navarrete, is in the Department of State at Washington. It purports to be drawn from observations made by Bodega, commander of the "Sonora," and by Maurelli. There are no indications of De Fuca's straits on it.

— A. D. 1775.

A map by Jefferys delineates the coast from New Albion to Mount St. Elias, indicating several openings, but not carrying them inland.

— A. D. 1776.

A map by Jefferys gives a protuberant coast line at the northwest, named "America," the northern part of which he marks "according to the Japanese," while south of that he designates it as land "seen by Spangenberg, 1728." "Alashka" is made an island lying west of it, with Behring's straits separating it from Asia.

See *post*, no. 336.

296. A. D. 1777. San Francisco and Monterey by Junipero Serra.

After a map in the British Museum inscribed: "Plano mappa del viage hecho desde Monterey al gran puerto de San Francisco . . . P. F. Petrus Font fecit, anno 1777." Supposed, in the pricked track upon the drawing, to represent the journey of Don José Moraza, about the bay of San Francisco, and to record his surveys. Kohl supposes the imperfect

delineation of the Monterey waters to follow earlier surveys.

— A. D. 1778.

The map in Carver's *Travels through the Interior Parts of North America in 1766-1768*, London, 1778. It shows the New Albion coast, with vague indications of the straits of Anian and the Western sea. It is sketched in H. H. Bancroft's *Northwest Coast*, i. 133.

Captain James Cook's map of his explorations on the northwest coast, published in his *Voyage to the Pacific Ocean, 1776-1780*.

297. A. D. 1782. Upper California by Mascaro.

The coast is shown from Cape Mendocino to San Diego. From a MS. Spanish map in the British Museum. The tracks of the expedition by land of Juan Baptista de Ansa and others are noted by pricked lines.

298, 299. A. D. 1782. New Mexico by Mascaro.

A tracing from the original in the British Museum, and an imperfect draft of the same, without annotations by Kohl.

300. A. D. 1782. Port of San Diego.

Published in 1802, in the accounts of the voyage of the "Sutil y Mexicana."

— A. D. 1782.

Janvier's map preserves the great Sea of the West, with two entrances,—one passed by Aguilar, the other by De Fuca. It is sketched in H. H. Bancroft's *Northwest Coast*, i. 135.

— A. D. 1786.

The maps of La Pérouse in his *Voyage autour du Monde*. H. H. Bancroft, *Northwest Coast*, i. 176, sketches one of them.

301. A. D. 1787. Old and New California by Diego Francisco.

Shows the gulf of California and the Pacific coast north to San Francisco. Made to show the travels of Junipero Serra, the president of the missions of California. The bounds between New and Old California are laid down as an east and west line from the coast, just south of San Diego, to the head of the gulf of California. A road is indicated as connecting all the missions.

— A. D. 1787.

The map in George Dixon's *Voyages Round the World, 1785-1788*, part of which is given in H. H. Bancroft's *Northwest Coast*, i. 180.

302. A. D. 1791. Port of Monterey.

From the atlas of the "Sutil y Mexicana" voyage.

303. A. D. 1791. The Straits of Juan de Fuca.

Part of a MS. chart of Vancouver's Island and surrounding waters, obtained from Mexico, and preserved at Washington. It shows the Spanish surveys of Francisco Elisa, or his deputy, Alférez Quimper. It is given in the *Reply of the United*

States (1872) on the San Juan boundary; and H. H. Bancroft's *Northwest Coast*, i. 242, gives part of it. Cf. other maps of Elisa, *Ibid.* i. pp. 245, 247.

304. A. D. 1791. Friendly Cove, Vancouver's Island.

From the map published in the account of the voyage of the "Sutil y Mexicana." See *post*, no. 310.

305. A. D. 1791. Queen Charlotte's Island by Captain Ingraham.

From the MS. report of Captain Ingraham, preserved in the Department of State, Washington,—the same named by Captain Gray in 1790, "Washington Island."

— A. D. 1791.

Map in Marchand's *Voyage autour du Monde*, part of which is given in H. H. Bancroft's *Northwest Coast*, i. 256.

— A. D. 1791.

Georg Forster's *Nordwestküste von America*, showing the "Grosser Nordliche Archipelagus Lazari," with "Juan de Fuca's Einfahrt."

306. A. D. 1792. Quadra and Vancouver's Island by Ingraham.

From the same report as no. 305. Cf. H. H. Bancroft's *Northwest Coast*, i. 278.

307. A. D. 1792. California Coast.

Shows the coast from 17° to 48° n. lat., following part of a Spanish chart in the archives at Washington, which came from Mexico. See no. 309, *post*.

308. A. D. 1792. California Coast.

The map in the *Atlas para el Viage de las Goletas Sutil y Mexicana en 1792*, published in 1802, under the editing of Navarrete,—the ships being commanded by Valdes and Galiano. The map maker profited by the surveys of Vancouver, who had published his results meanwhile.

309. A. D. 1792. Northwest Coast.

A continuation northward of the chart, no. 307.

310. A. D. 1792. Friendly Cove by Captain Ingraham.

From Ingraham's report, already cited.

311. A. D. 1792. Vancouver's Island and the Oregon Coast.

From the *Atlas* of the "Sutil y Mexicana" expedition.

— A. D. 1792-93.

H. H. Bancroft in his *Northwest Coast*, vol. i., gives the following maps:

- 1792. Haswell's map of Nootka (p. 262).
- 1792. Caamaño's map (p. 269).
- 1792. Galiano's map (p. 272).
- 1792. Vancouver's maps (pp. 276, 280).
- 1793. Vancouver's map (p. 292).

— A. D. 1793.

The map in William Goldson's *Observations on the Passage between the Atlantic and Pacific Oceans, in two Mémoires on the Straits of Anian and Discoveries of De Fonte.*

— A. D. 1812–1813.

Carta general (Pacific ocean) por José de Espinosa. Londres año 1812; Corregida en 1813.

312. A. D. 1854.

An engraved *Karte des Russischen Amerika gezeichnet von H. F. Holmberg, 1854*, which appeared in the *Ethnographische Skizzen über die Völker des Russischen America von H. F. Holmberg, Helsingfors, 1855.*

X.

THE NORTHERN PACIFIC OCEAN AND ITS COASTS.

*** See section ix.

313. A. D. 1457. **China and Japan.**

From a Chinese treatise, *Yik-tung-che*, in the British Museum. Shows eastern coast of China and the islands of Japan and Lew-Chew. Korea is in the north.

314. A. D. 1490. **Eastern India, from the Ptolemy of 1490.**

The furthest point to the west is the gulf of Ganges. The Pacific coast is cut off by the right-hand edge of the map, and this is, in Kohl's opinion, the shore Columbus believed that he was skirting in sailing along the gulf-side of Central America. The name Cattigara, here on the land at the right-hand edge of the map, Kohl says he finds in early maps on the west coast of South America. See Winsor's *Bibliog. of Ptolemy.*

315. A. D. 1513. **Pacific Ocean.**

A Portuguese map. The west coast of America is unindented, and runs nearly northwest from 4° south latitude. The Moluccas and the southeast peninsula of Asia are shown. Follows a chart preserved in the Military Museum at Munich. Kohl supposes it to embody the explorations of Antonio da Miranda de Azevedo in 1513, who joined at the Moluccas an earlier expedition (1511–1512) by Francisco Serrão to those islands. This map is sketched in the *Nar. and Crit. Hist. America*, ii. p. 440. See section ix., under A. D. 1513.

316. A. D. 1518. (?) **Pacific Ocean.**

On the extreme west are the "Ilhas de Maluqua," on the extreme east the coast discovered by Balboa in 1513, and beyond the coast of Yucatan, Honduras, Cuba, Florida, etc. In mid-ocean there is nothing. The original is a Portuguese chart in the Military Museum at Munich. Kohl supposes it to have been made about the time Magellan's fleet was fitting out, and that it probably represents that explorer's views of the ocean which he was going to seek. The gulf of Mexico is left open towards the Pacific. The Pacific is made about 100° broad. Sketched in the *Nar. and Crit. Hist. America*, ii. 217.

317. A. D. 1536. **The Moluccas by Baptista Agnese.**

From the atlas of Agnese in the British Museum. Kohl suspects that Agnese used the maps brought back by Del Cano from Magellan's expedition, because there are traces of Spanish in the names, and none of Portuguese. The names in Pigafetla's narrative of Magellan's voyage are found here; and the islands are placed in relation to each other as to direction and distance as in that report. The Moluccas seem to be curiously duplicated, the one draft of them being 15° east of the other.

318. A. D. 1536. **Eastern Asia by Agnese.**

From the same *Atlas* as no. 317. It shows the two great southern peninsulas of Asia, and the coast of China.

319. A. D. 1542. **Eastern Asia by Rotz.**

"The Indies of Orient," from Rotz's *Boke of Idrography* in the British Museum. It shows the two great Asiatic peninsulas, the islands of Java, etc., and what seem to be the northern parts of Australia; and this, in Kohl's opinion, is the earliest instance of the recognition of that region on a map. (*Ante*, no. 55.)

320. A. D. 1543. **Asia.**

Shows the whole of Asia. From the *Polyhistoria* of Solinus. The southeastern part becomes a continental peninsula, as in the ancient maps. The editor of Solinus, Tsingrinus, did not recognize the fact, as Kohl thinks, that the Portuguese had already on their maps broken up this extension into the East Indian Archipelago. In the northeast corner of the map is a coast, "Terra incognita," which seems to be a recognition of the west coast of America.

321. A. D. 1550. **Japan and the China Coast by Freire.**

From a portolano by Juan Freire, inspected by Kohl while in the hands of Santarem. In his notes, Kohl says that some of the maps in it are dated 1546, though this one is undated; but he believes it to have been made about 1550. It was in 1543 or 1545 that the Portuguese under Ferdinand Mendez Pinto reached Japan; but their commercial intercourse began in 1549, when their missionary Xavier reached the island. This was a type of the contour of the Japanese coast common in European maps before the Dutch reformed the shape of it about 100 years later.

322. A. D. 1558. **China and the Moluccas by Diego Homem.**

From Homem's MS. atlas in the British Museum. As a Portuguese, Homem's knowledge of the China coast was superior to that of any other existing record, and better than that employed by Ortelius and Mercator much later.

323. A. D. 1568. **The East India Islands by Martines.**

The chief name on the map is "Isoli Maluchi." He gives the upper coast of an Antarctic continent marked "discoperta novamente." The map is less accurate than Homem's. (See *ante*, no. 322.)

324. A. D. 1570. Straits of Anian and Neighboring Lands by Ortelius.

From the *Theatrum orbis terrarum*, Antwerp, 1570. Kohl says that for all north of 40° (Japan) Ortelius had no authority but Pliny, Ptolemy, Marco Polo, and the geographical traditions of his time. An "Oceanus Scythicus" is given above 58° N. lat., bounded westerly by a northern peninsula of Asia. America lies wholly south of the same ocean. The peninsula of California is drawn, but represented very broad; the gulf is called "Mar Vermeio." Japan is longest east and west, and lies midway between Asia and America. The sea contracts above Japan, in 48° N. lat., forming the straits of Anian ("Stretto di Anian"). He gets "Quinci," "Mangi," "Mare Cin," from Marco Polo. The map is called "Tartariæ sive Magni Chami regni typus."

The straits of Anian seem to be earliest indicated on the Martines map (*ante*, in section ix., under A. D. 1558). Various later maps in that section show the changing notions respecting the straits of Anian.

325. A. D. 1574. Anian and Quivira by Forlani.

A small, incomplete sketch of Forlani's map (without comment by Kohl), showing the straits of Anian separating "Anian Regnum" from "Quivir," with "Isle di Giapan," stretching east and west between the Asiatic and American coasts. It is sketched in the *Nar. and Crit. Hist. America*, ii. p. 454.

— A. D. 1583-1600.

The Japanese map in the Sloane collection, British Museum.

326. A. D. 1592. Northeastern Asia and Japan from Molineaux's Globe.

Extract from the globe in the Middle Temple, London. The contour of Japan follows Portuguese sources.

— A. D. 1597.

No. 28 of the Arnheim edition of Ptolemy, showing the straits of Anian. (See *ante*, section ix., under A. D. 1597); no. 32, showing the North Pacific. (See *Ibid.*)

327. A. D. 1609. China and Japan.

From a MS. sketch on vellum in the British Museum, purporting to have been sent from Madrid in 1609.

328. A. D. 1636. Japan.

Called "Perfecte Karte van de gelegentheijdt des Landts van Japan." It is taken from a book published in 1636 (three years before the Portuguese were expelled from Japan by the Dutch), entitled *Rechte Beschryvinge van het machtighe Koninkrijk van Japan* (Lucas and Caron). The island is represented as connected by a neck with the continental "Landt van Jesso."

The explorations of the Dutch gave rise to the belief in a large island lying in the north Pacific, between America and Asia, called the island of "Jesso," with the supposed straits of Anian on the east, and the "Detroit de Vries" on the west. It clung for some time to the maps. Cf. *Nar. and Crit. Hist. America*, ii. pp. 463, 464, where is a fac-

simile of the map of Hennepin, as repeated by Campanius. There are other indications of it in maps noted in section ix., after this date. (See *post*, no. 330.)

329. A. D. 1700. Northeastern Asia by Ysbrand Ydres.

Made from explorations of this agent of the Russian government, and published as "Nova Tabula Imperii Russici." "Kamzatza" is a small river of the region, which ought to show the peninsula of Kamtschatka, but instead shows a rectangular cape, with the Pacific shore running north and south, and the Arctic shore east and west.

330. A. D. 1706. Terra de Yesso by Lugtenberg.

A curious configuration of North America is bounded on the north by Hudson's bay, connecting by the straits of Anian with the Pacific. North of these straits, and west of Hudson's bay and Baffin's bay, is an elongated (east and west) "Terra de Yesso," separated at the west end by the "Straet de Vries" from Yedso, a part of Asia, of which Japan is a southern peninsula. He supposes "Yesso" to be the country of the Lost Tribes, and the route by which America was peopled from Asia. A chain of smaller lakes connects the Great Lakes of Canada with the Pacific. (See *ante*, no. 328.)

331. A. D. 172- (?) Kamtschatca by Homann.

Published by J. B. Homann in Nuremberg. Evidently made before Behring's expedition in 1728. It purports to be based on the reports of Russian caracks and sable hunters. The peninsula is extended too far south, and Homann seems to confound it with Jesso. The northern end of Niphon or Japan is shown. The mouth of the Amur (Amoor) is shown.

332. A. D. 1721. Northern and Eastern Asia by Lange.

Without annotation.

333. A. D. 1728. North Eastern Asia by Behring.

Without annotation.

334. A. D. 1750. Northern Pacific by Delisle and Buache.

"Carte des nouvelles découvertes au nord de la mer du Sud, dressée sur les mémoires de M. de L'Isle par Philippe Buache, et présenté à l'académie des Sciences par M. De L'Isle, 1750." Delisle worked up his memoir in St. Petersburg, with the aid of Russian reports and surveys. The tracks of Behring, Spanberg, and others are laid down. Buache has tried on the American side to reconcile the reports of De Fonte with the later Russian discoveries, and gives a large inland "Mer de l'Ouest," the archipelago of St. Lazare and connecting inland waters, and the "Iac de Velasco." He also puts down the supposed land seen by De Gama in mid-ocean, as also seen by Tschirikow and Delisle in 1741.

See section ix., under A. D. 1752-53.

335. A. D. 1761. Shores of the Northern Ocean.

The map in Coxe's *Russian Discoveries*, London, 1803, showing the exploration of the Russian Shalurof in 1761. Cf. map of the Northern Pacific with Russian discoveries, in *London Magazine*, 1764.

336. A. D. 1768. Russian America.

The results of the official Russian expedition under Lt. Sind in 1764-68, as shown in a map made by a Russian geographer, Von Stachlin. "Alaschka" is made a large island, lying off the coast of North America, this point of northwestern America being severed on the map from the main. Burney thinks that in constructing this map the chart of a Russian, Ivan Levov, was used.

See *ante*, section ix., under A. D. 1776.

337. A. D. 1769. Kamtchatka and the Fox (Aleutian) Islands by Krenitzin and Levasheff.

From Coxe's *Russian Discoveries*, London, 1803. The northernmost of these islands is called "Alaxa Island," but it has a dotted line for its northern coast, and is really the point of Alaska.

338. A. D. 1775. Russian America by Jefferys.

Founded on no. 336, *ante*; but Jefferys continues the northern coast of America according to the Japan map given by Kempfer to Hans Sloane.

See *ante*, under A. D. 1583-1600.

339. A. D. 1775. Northern Pacific by Engel, Vaugondy, and Buache.

"Carte de comparaison des plans systématiques de Mr. M. Engel et de Vaugondy sur le Nord-Est de l'Asie et le Nord-Ouest de l'Amérique avec des cartes modernes. Par J. N. Buache, 1775." Engel's outlines are given in red, Vaugondy's in black, Buache's in blue. The longitude varies with them as much as 40° in some places.

See *ante*, section ix., under A. D. 1752-53.

XI.

THE NORTH ATLANTIC OCEAN AND NEIGHBORING WATERS.

* * * See sections i., iv., v., and vi.

340. A. D. 1450. The Northern Coast of Europe.

From a mappemonde found in the "Museum Borgianum," and supposed to be made by a German. The island "Anglia" and "Scotia" is shown.

341. A. D. 1534. Scandinavia by Bordone.

From the *Isolario de Benedetto Bordone*, Venice, 1534, the earlier edition having appeared in 1528. It shows the Baltic, the Scandinavian peninsula with "Engronelant" (Greenland) lying north of it, and connected by an isthmus with northwestern Europe. (*Ante*, nos. 48, 103.)

342. A. D. 1540. Northwestern Europe, from the Ptolemy published at Basle.

The north Atlantic is confined on the east by Norway, on the north by a neck called "Gronland, i. e. Virens terra," and on the west by "Terra nova sive de Baccalaos, (Bacalhos),"— whose coast is interrupted at the northwest by a square or vignette. "Island, Thyle" is a large island in the midst of this ocean. In the extreme north, beyond the land, is the "Oceanus Hyperboreus." An inscription south of the "Gronland" isthmus reads: "Capitulum hic Stockfish." (*Ante*, no. 52, A. D. 1540.)

343. A. D. 1548. Northwestern Europe.

From the map known as the Dauphin, or Henri II., which Kohl used while in Jomard's possession. It shows the Baltic, and a large vaguely defined country to the north marked "Groolande" (Greenland), and on its northern coast "Vinlapie" (Finland). Cf. *ante*, no. 156.

344. A. D. 1546. Scandinavia.

Shows the Baltic, "Suecia," and "Islamda" (Iceland). From a MS. atlas by Juan Freire, in the possession, when Kohl took it, of Santarem. One branch of the Baltic is made to connect with the northern ocean. Kohl suggests from the fact that the names in the north are Portuguese, or at least not Scandinavian, that the Freire did not use northern drafts. (*Ante*, no. 152.)

345. A. D. 1567. Scandinavia by Olaus Magnus.

From an engraved map in the history of Scandinavia by Olaus Magnus, which represents geographical knowledge, as Kohl thinks, of a much earlier date. A peninsula in the northwest part of the map, extending to 82° n. lat., is marked "Gruntlondia," and a legend says: "Hic habitant pigmei vulgo Screlinger dicti," recognizing the Scandinavian name of the Eskimo. (*Ante*, no. 106, A. D. 1567.)

346. A. D. 1570. North Atlantic by Stephanus.

From Torfæus's *Grønlandia Antiqua*, and marked "Sigurdus Stephanus delineavit, Anno, 1570." The draft was seemingly based on records or traditions of early Scandinavian voyages to the west from Iceland, which here is placed as "Island" in the centre of the map. On the west coast of Norway is called "Bjarmaland." North of this, a narrow strait is shown as connecting with water known to the Russians, or running towards their country. On the north is "Jotunheimar" and "Riseland" (land of giants); on the west a long cape, "Heriolfness," seems to be Greenland's southern point; at the southwest a cape stretches northward which is marked "Promontorium Vinlandiæ," which Kohl thinks may have been Newfoundland. Between this and Greenland lie (going south) "Helleland," (stony land), "Markland" (woody land), and "Skraelingeland" (land of dwarfs).

Kohl gives a sketch of this map in his *Discovery of Maine*. (See *ante*, no. 106, A. D. 1570.)

347. A. D. 1570. The North Atlantic.

Torfæus, who gives this map, says of it: "Jonas Gudmundi filius delineavit, vir curiosus Islandus." Kohl thinks it follows Scandinavian traditions. The north Atlantic is shown as landlocked, except there is a narrow strait connecting with the Arctic sea, north of the Scandinavian peninsula, and a contracted continuation of the ocean at the south, between "Gallia" and a land, the northern part of which is seen, and called "America," "Terra Florida," "Albania," etc. Above this is another channel, running west from the enclosed ocean. The west and north of this ocean is bounded by a land marked (going north) "Wester Bygd," "Oster Bygd," "Kroksfiorderheide," "Risaland," and "Helleland."

See no. 351, *post*.

348. A. D. 1595. Nassau Strait by Barentz.

From De Bry, third part of the Oriental series, or Minor Voyages, published at Frankfort, 1601. Kohl

assigns the surveys on which this map is constructed to the second voyage of Barentz in 1595. The map was re-engraved in the *Begin ende Voortgange van de Oost-Indische Compagnie*, 1646, vol. I., p. 6. The strait is that south of Nova Zembla, separating it from the main.

349. A. D. 1595. Northern Europe by Linschoten.

This is from the engraved map in Part 10 of the same series of De Bry (1613). Linschoten accompanied Barentz in his expedition of 1594. It follows the coast from the eastern shore of Norway to beyond Nova Zembla.

350. A. D. 1597. Nova Zembla by De Veer.

From the map in the third part of the same series of De Bry (1601). Gerhard de Veer was with Barentz on his three northern voyages. A facsimile of this map, *Caerte van Nova Zembla . . . door Gerrit de Veer*, is given in the *Three Voyages of Willem Barentz*, published by the Hakluyt Society in 1876, as well as in that society's *Three Voyages by the North East*, published in 1853.

351. A. D. 1606. North Atlantic.

From Torfæus's *Gronlandia Antiqua*, 1606, where it is called: "Delineatio Gronlandiæ Gudbrandi Torlacii, Episcopi Holensis." It resembles somewhat no. 347, *ante*; but the land called "America" in that is here named "Estotilandia." "Gronlandia" is better drawn, of which the east shore is marked: "Latus orientale Groenl. inhabitatum." It is sketched in Kohl's *Discovery of Maine*, p. 109.

352. A. D. 1613. Northern Russia and Nova Zembla by De Bry.

From Part 10 of the same series of De Bry, published in 1613. It purports to be taken from a Russian map, and the language of that to be translated into Latin.

The map by Isaac Massa is reproduced in the Hakluyt Society volumes, — *The three Voyages of Willem Barentz* (1876) and *Three Voyages by the North East* (1853).

353. A. D. 1773. Northwestern Europe, Spitzbergen and Greenland by Phipps.

It shows the ocean north of 50°, and west of the meridian running through Iceland; a part of Greenland is projected above 71°. From the map given by Constantine John Phipps in his *Voyage towards the North Pole*, London, 1774.

354. A. D. 1818. North Atlantic by Buchan.

It shows Iceland, Norway, Spitzbergen, and the east coast of Greenland. It is taken from the chart in F. W. Beechey's *Voyage of Discovery towards the North Pole, performed in his Majesty's Ships Dorothæa and Trent, under the command of Capt. D. Buchan*, London, 1843.

*** Cf. the enumeration of Arctic maps in the *British Museum Catal. of Engraved Maps*, 1885, column 175.

XII.

SOUTH AMERICA.

*** See section ii., *ante*, and xiii. to xvi., *post*.

— A. D. 1515.

Schöner's early globe, of which there are drawings of the South American parts in Ruge's *Zeitalters der Entdeckungen* (p. 461), and in the *Nar. and Crit. Hist. America*, vol. viii. Cf. *ante*, nos. 34 and 35, and the Nordenskiöld gores of the early part of the sixteenth century, figured in that author's *Globekarta fran Början af sexton de selket*, and in the *Nar. and Crit. Hist. America*, vol. viii.

355. A. D. 1540(?). South America. (French.)

Part of a MS. mappemonde in the British Museum, supposed to have been made by order of Francis I. for the Dauphin. Cf. Malte Brun, *Hist. de la Géographie* (Paris, 1831), vol. i., p. 630. The general name of the continent seems to be *La Terre du Brésil*, which convinces Kohl that the map-maker used Portuguese sources, which is also apparent from the Portuguese flavor of the French names on the map, where French is used. There are, however, Spanish legends in some parts, as on the east coast of Patagonia. There are no names on the coast of Chili, which leads Kohl to think that the map could not have been made long after 1535, when that coast became well known. The Amazon is not represented except in its mouth; and as Orellana did not explore it till 1543, intelligence of his voyage had not reached, it would seem, the draughtsman. The La Plata connects with the Amazon's mouth, making an island of the most easterly part of the continent. There is a sketch of it in the *Nar. and Crit. Hist. America*, vol. viii.

— A. D. 1544.

Cabot's mappemonde. (See *ante*, section ii., *sub* 1544.) A sketch of the South American part is given in the *Nar. and Crit. Hist. America*, vol. viii.

— A. D. 1545-49.

Medina's *Arte de navegar* (1545) had a map of South America, cut off above the La Plata. This same cut was pieced out to include Magellan's straits in the edition of 1549. A facsimile of this last is given in the *Nar. and Crit. Hist. America*, vol. viii.

— A. D. 1548.

The "Carta Marina" of the Ptolemy of this year. See *ante*, under no. 58. A facsimile of this map is given in the *Nar. and Crit. Hist. America*, vol. viii.

356. A. D. 1550(?). South America.

From a Spanish portolano preserved in the Bodleian Library, at Oxford. Indications of towns founded after 1550 would probably put the date of the map about 1560, as Kohl indeed says in his annotations, but he gives the date "about 1550" in the title of it. The interior of the continent is rather fancifully laid out, and the coasts are not so well made out as on contemporary Portuguese charts. What seem to be the Falkland islands are called "yās de S. anton."

357. A. D. 1550(?).

A less perfect draught of the same.

— A. D. 1554.

The Bellerio map. See *ante*, no. 64. There is a facsimile of it in the *Nar. and Crit. Hist. America*, vol. viii.

— A. D. 1556.

Map in Ramusio; repeated in the edition of 1565. See *ante*, no. 66. There is a facsimile in the *Nar. and Crit. Hist. America*, vol. ii., p. 228.

358. A. D. 155-(?). South America. (French.)

From a MS. map once in the possession of M. Jomard. Kohl thinks it a French map made after a Portuguese original, and that it resembles the Nicolas Vallard map of 1547. The general name of the continent is **Amerique**. There being no trace of Villegagnon's settlement in Brazil in 1556, Kohl puts its date earlier than that year.

— A. D. 1561.

The maps in the Ruscelli edition of Ptolemy. See *ante*, under no. 69.

359. A. D. 1562. South America by Gutierrez.

After an engraved map, thought by Kohl to be the earliest on so large a scale, and called, "Americæ sive quartæ orbis partis exactissima descriptio. Auctore Diego Gutierro, Philippi regis Hisp. Cosmographi. H. Coch excud. 1562." It shows neither latitude nor longitude. The serpentine course of the Amazon is like the delineations of Homem, and the river bears the names reported by Orellana. South of the Amazon, and between it and the La Plata, is the Rio de Marañon, which is made to rise in lake Titicaca, and empty into the Atlantic. The Magdalena River was known after 1538, but it fails of recognition on this map, which is sketched in the *Nar. and Crit. Hist. America*, vol. viii.

— A. D. 1569.

The great Mercator map. See *ante*, under no. 71.

— A. D. 1570.

The Ortelius atlas. See *ante*, no. 72.

— A. D. 1572.

The Porcacchi map. See *ante*, under no. 72.

360. A. D. 157-(?). South America by Forlani.

The printed map of Paulo di Forlani in the British Museum, without date. It is called *La Description di tutto il Peru*. The name of Peru does not otherwise occur on it. The eastern extremity is called "Terra del Brasil." The northwest corner is marked, "Castiglia del Oro." The Orinoco country is called "La nova Andalucia." The longitude is reckoned apparently from Pico in the Azores. There is a copy of the original in Harvard College Library, after which a facsimile was made in the *Nar. and Crit. Hist. America*, vol. viii.

361. A. D. 1574. South America by Forlani.

The map has an Italian inscription, which is to this effect: "I met some months since in Venice a certain Don Diego Hermano, a gentleman of noble family, and had with him some talks on geography. He presented to me a sketch, showing voyages of

exploration, and this drawing I have engraved. Venice, Dec. 14, 1574. Paolo dei Furlani." Kohl thinks this map precedes no. 360.

— A. D. 1574.

The *Enchiridion* of Philippus Gallæus. See *ante*, under no. 72.

— A. D. 1578.

The Martines map. See *ante*, no. 77.

362. A. D. 1585(?). South America by Doetechum.

A MS. map in the British Museum, signed "Johannes a Doetechum fecit." The legends on the map are in Latin; but the names on the Brazil coast are in Portuguese, and on the other coasts in Spanish. Cordova, founded in 1573, is put down, and this affords an anterior limit for the date of the map. The name "Rio de buena Sarres" leads Kohl to think that the town Buenos Ayres (1580) had not been founded when the map was made, and he does not know the ground for the date 1585(?), adopted in the Museum catalogue. The Paraguay (called Parana) runs from Lacus Eupana, which has connection also through various channels with the Atlantic, above and below Cape St. Augustine. The map is cut off just north of Patagonia, and is held by Kohl to have been used by Hondius in his map, made shortly after 1600. The "Rio Grande" (Magdalena) is developed more than on any earlier map, as Kohl says. The Orinoco is a mere coast stream. There is a sketch of this map in the *Nar. and Crit. Hist. America*, vol. viii.

— A. D. 1587.

The map in Hakluyt's Paris ed. of Peter Martyr. See *ante*, no. 80.

363, 364. A. D. 1592. South America by De Bry.

An imperfect sketch, and a tracing.

365. A. D. 1593. South America by Judæis.

From an engraved map by Cornelius Judæis, called *Brasilïa et Peruvia*. The Orinoco is a small stream. The La Plata is made to rise in the "Laguna del Dorado."

— A. D. 1593.

Map of Maffeius. See *ante*, under no. 83.

— A. D. 1597.

The maps in Wytfliet's continuation of Ptolemy (see *ante*, under no. 85), and in the editions of Ptolemy at Cologne and Arnheim (see *ante*, under no. 84).

— A. D. 1598.

The map in Münster's *Cosmographia*. See *ante*, no. 86.

366. A. D. 1599. South America by Linschoten.

From an engraved map in Linschoten's *Navigatio in Indian Orientalem*. The La Plata rises in the "Laguna del Dorado."

— A. D. 1599.

Hulsius's "Nova et exacta delineatio Americæ partis australis" in the *Vera historia* of Schmidel, Amsterdam, 1599, part of which is given in facsimile in the *Nar. and Crit. Hist. America*, vol. viii.

367. A. D. 1600(?). South America.

It shows the continent between the northern limits of Brazil and the upper parts of Patagonia. After a MS. map in the Dépôt de la Marine at Paris. Para, near the mouth of the Amazon, founded soon after 1620, is not indicated, and the course of the Amazon is not improved upon the type fashioned after the reports of Orellana in 1542. Near lake Titicaca is a legend about the explorations of Nuño de Chaves, in 1557-1560. The names and inscriptions are nearly all Spanish, with an admixture of Portuguese in Brazil. The designations of the oceans and a few other names are French. These features indicate a French draughtsman, working on Spanish and Portuguese models.

— A. D. 1601.

Map in Herrera. See *ante*, no. 88.

— A. D. 1603.

The map in Botero's *Relaciones*. See *ante*, under no. 84.

— A. D. 1606.

Map in the *Regimiento de Navegacion* of Cespedes. See *ante*, no. 89.

368. A. D. 1610(?). America Meridionalis.

From the *Hondius-Mercator Atlas*, Amsterdam, 1630. The map is without date. The great Antarctic Continent, "Terra del Fogo," would indicate that it was made before Lemaire's voyage in 1615. No draughtsman's name is attached to the map, but Kohl conjectures that it was made by Hondius. Kohl calls it the most correct map at its date. Lake Titicaca connects with the Amazon. The "Eupana Lacus" connects south with the La Plata, north with the Amazon, and east with the Atlantic. The continent is made 60° broad.

See the Hondius map in the *Mercator Atlas* of 1613, and in Purchas, iii. p. 88z.

— A. D. 1613.

The map in the *Detectionis Freti*, etc.
The map of Joannes Oliva in the British Museum. See *ante*, no. 90.

— A. D. 1625-30.

See De Laet, *ante*, no. 92.

— A. D. 1635.

See the Mercator Atlas, *ante*, under no. 100.

— A. D. 1651.

Jansson's *Atlas Minor*, ii. 401.

369. A. D. 1660. South America by Allard.

In the Orinoco he follows Visscher; in the Amazon, Acuña. The river Xanca in Peru is made the source of the Amazon. He records Brouwer's passage between Staten island and Tierra del Fuego, in 1643.

— A. D. 1663.

Heylin's *Cosmographia*.

370. A. D. 1680-81. South America by Sharp.

The map is called "A description of the South sea and Coasts of America, Containing the whole navigation to all those places at which Capt. Sharp and his Companions were in the years 1680 and 1681." Sharp's track of circumnavigation is pricked on the map. The southern point reached by him was 58° 25', where he saw no land. He went much to the southeast of Staten island, called by him Albemarle island. The map is copied from Ringrose's *Buccaniers of America*, 2d ed. London, 1684.

XIII.

NORTHERN PARTS OF SOUTH AMERICA.

*** See sections ii. and xii., *ante*.

371. A. D. 1525. North Coast of South America by Lorenz Friess.

One of the twelve sheets of a wood-cut map, made in 1525, but not published till 1530, and based, it is thought, on maps of Waldseemüller, as he had also used that geographer's maps in the 1522 edition of Ptolemy. The main inscription on the continent is "Das nûv erfunde land." Kohl thinks the information used was not very recent in 1525. It is sketched in the *Nar. and Crit. Hist. America*, ii. p. 218.

372. A. D. 1528. Terra de Santa Croce by Bordone.

From the first edition of Bordone's *Isolario*, 1528. It is called, "Terra de santa croce, over Mondo nuovo." He considers South America an island, having no connection with Asia or with North America. "C. S. X." is the designation put for the present Cape St. Augustine, and Brazil is called "Paria." He had only heard reports of Balboa's and Magellan's discoveries, and he omits the southern parts of the continent. The map is supposed to have been made in 1521. There is a sketch of it in the *Nar. and Crit. Hist. America*, vol. viii.

373. A. D. 1542. Northeast Coast of South America by Rotz.

From his *Boke of Idrography* in the British Museum. Kohl thinks from the names that Rotz derived more help from Portuguese than from Spanish sources. The two chief names along the coast are "Coste of Brazil" and "Coste of Caniballis." It extends from Trinidad to below Cape St. Augustine.

374. A. D. 1595(?). Amazon and Orinoco.

It shows the coast from the mouth of the Amazon to Panama, and the watersheds of the Amazon and Orinoco. The original MS. map was acquired by the British Museum in 1845, and Kohl is inclined to believe it the identical map made when Raleigh was on the Orinoco, or a contemporary copy of his map. The original is on vellum, and Kohl thinks that the manner of execution points to a date earlier than 1600. The extent of the map corresponds to the map which Raleigh tells us he made of the country, and the geographical features correspond with his narrative, including the "Lake of Manoa."

375. A. D. 1596. Orinoco.

A small sketch of the coast from Venezuela to the mouth of the Amazon.

376. A. D. 1619. Guiana from De Bry.

Kohl's annotations are erased.

377. A. D. 162-(?). Orinoco by N. Visscher.

Sketch of the Orinoco valley, with adjacent coasts, and part of Lacus Parime.

— A. D. 1651.

Northwest parts of South America, in Jansson's *Atlas Minor*, ii. 407.

378. A. D. 1656. Guiana by Sanson.

From the "Carte de la Guyane et Caribane, augmentée et corrigée suivant les dernières Relations par Sanson d'Abbeville, 1656." Kohl thinks Sanson used drafts brought away by the French when they left Cayenne in 1653. It shows in the interior a large "Lac ou Mer, que les Caraïbes appellent Parime." This draft remained the best one of the interior of Guiana till D'Anville's map in 1729.

379. A. D. 1669. Guiana by Thelot.

Made at Frankfort on the Main by T. P. Thelot, attached to an account of Guiana, published in 1669. The map is called, "Guiana sive Amazonum regio." The usual extensive "Parime Lacus," with its city of "Manoa," appears.

380. A. D. 1694. Surinam by Van Keulen.

From the *Zee-Atlas* of Van Keulen.

381. A. D. 1729. French Guiana by D'Anville.

From an engraved map based on reports of M. Milhan. It shows the country for about seven leagues around Cayenne.

382. A. D. 1729. French Guiana by D'Anville.

From 1635, when the French first had possession, down to 1676, when their possession was assured, and during later periods down to 1729, there were French surveys of the country, of which D'Anville had the use. Up to this date little was known of the interior beyond what the Fathers Grillet and Bechamel learned in explorations in 1674.

383. A. D. 1730. Venezuela by D'Anville.

Depending on Spanish reports. The coast is still inaccurate.

384. A. D. 1741. Orinoco Valley by Gumilla.

The map is called, "Mapa della Provincia y Misiones de la Compañia de I. H. S. de Nuevo Reyno de Granada." From an engraved map accompanying Gumilla's work on the Orinoco Country. Kohl thinks it hardly an improvement on the Raleigh map (*ante*, no. 374). It shows the "Laguna de Parima."

385. A. D. 1751(?). North Part of South America by Brentano and La Torre.

This map, without date, was made, in Kohl's opinion, not long after 1744, and is entitled, "Provincia Quitensis Societatis Jesu in America cum tribus cadem finitimis, a PP. Carolo Brentano et Nicholas

de la Torre. Romæ." A legend at the point where the Orinoco and Rio Negro (branch of Amazon) become confluent says that this connection was discovered in 1744, by Father Emmanuel Roman, Superior of the Orinoco missions. The Portuguese had found it out, however, the year before. The course of the Orinoco seems to be copied from Gumilla.

386. A. D. 1775. Sources of the Orinoco by J. de la Cruz Cano.

A small imperfect sketch.

387. A. D. 1830. Massaroonny River by Hillhouse.

A branch of the Essequibo river. An engraved map in the *Journal of the Royal Geographical Society*, iv. (1834).

388. A. D. 1832. British Guiana by Alexander.

From an engraved map in the *Journal of the Royal Geographical Society*, ii. (1832). The best map, before Schomburgk reformed the geography of the country.

389. A. D. 1834. Part of British Guiana.

An engraved map by Hillhouse in the *Journal of the Royal Geographical Society*, iv. (1834).

390, 391, 392. A. D. 1836. British Guiana by Schomburgk.

Nos. 390 and 391 are engraved maps in the *Journal of the Royal Geographical Society*, vi. (1836), and as improved in vii. (1837). These maps show the country from 1° to 9° N. lat., and from 56° to 60° W. longitude. No. 392 gives with minuter detail and according to later explorations, the part between 1° and 5° N. lat., and follows an engraved map in *Ibid.*, xv. (1845).

XIV.

SOUTHERN PARTS OF SOUTH AMERICA.

** Cf. sections ii. and xii.

393. A. D. 1521. Straits of Magellan by Pigafetta.

From the engraved map in Amoretti's edition of Pigafetta's narrative of Magellan's voyage, published at Milan, 1800. There is a facsimile of this map in the *Nar. and Crit. Hist. America*, vol. ii., and a sketch in *Ibid.*, vol. viii.

— A. D. 1529.

Ribero's mappemonde. See *ante*, no. 41. A sketch of Magellan's straits from it is given in the *Nar. and Crit. Hist. America*, vol. viii.

— A. D. 1531.

Finæus's mappemonde. The southern hemisphere is reproduced in Wieser's *Magalhães-Strasse*, p. 66, and in the *Nar. and Crit. Hist. America*, vol. viii.

— A. D. 1533.

The southern hemisphere of Schöner is figured in Wieser's *Magalhães-Strasse*, and in the *Nar. and Crit. Hist. America*, vol. viii.

394. A. D. 1546. Patagonia and Magellan's Straits by J. Freire.

From a portolano which was in Santarem's possession when used by Kohl. While the east coast of Patagonia and the straits have a nomenclature traceable to Magellan's voyage, Kohl does not find any original source for the names on the west coast, which runs north on the map to 27° S. lat. Kohl is mistaken in supposing Magellan did not run up the west coast before turning westward. Pigafetta's map shows that he did. Kohl quotes Gomara's statement that Camargo, in 1540, was the first to bring to Europe certain news of the Pacific coast between the straits and Peru, and thinks that Freire may have had Camargo's charts. There is a sketch of this map in the *Nar. and Crit. Hist. America*, vol. viii.

— A. D. 1547.

A sketch from the Nicolas Vallard map is in the *Nar. and Crit. Hist. America*, vol. viii. See *ante*, no. 154.

— A. D. 1578.

Hondius's map illustrating Drake's voyage is reproduced in Kohl's *Magellan's-Strasse*.

395. A. D. 1579-80. Sarmiento's Discoveries.

From a MS. Spanish map in the British Museum, showing the surveys of Pedro Sarmiento among the coast islands on the west coast of Patagonia. It does not show his researches further south within Magellan's straits, which leads Kohl to suspect that the map only indicates the explorations made before his vice-admiral, Villalobos, returned to Peru.

396. A. D. 1587. Magellan's Straits and the Antarctic Continent.

From a French MS. in the British Museum. It represents Tierra del Fuego as expanded into a continent, the northerly point of which is made an island by a transverse channel, somewhat hesitatingly indicated by some pictures of trees, which conceal the reaches of it.

— A. D. 1590.

The map in Johannes Myritius's *Opusculum geographicum*. See *ante*, no. 79.

397. A. D. 1599. Magellan's Straits by F. de Weert.

From De Bry's *Greater Voyages*, Part IX. (1602), showing the results of De Weert's surveys of the straits. Kohl thinks that Hondius in his *Atlas* (1607) worked from the same material with more detail, as shown in his better delineation of the great bend in the strait, which is here hardly noted.

398. A. D. 1600. Magellan's Straits by Hondius and Mercator.

This accompanies the treatise on the straits in the Hondius edition of Mercator, 1607, — which treatise, as it does not record the recent Dutch explorations, Kohl judges to have been written by Mercator himself before 1594, and to have been used by Hondius to accompany a map, embodying the Dutch surveys of Mahn, Coraes, and De Weert in 1598-99. Just after this, in 1600, Kohl would place this map.

Cf. the Hondius map in Purchas, iii. p. 900.

399. A. D. 1600. Southern Part of South America by Olivier van Noort.

A combination of two maps which appeared in the *Begin ende Voortgang van de vereenigde Neederlandsche Oost-Indische Compagnie*, 1646. Van Noort tracked these coasts in 1599-1600.

400. A. D. 1602. Patagonia by Van Noort.

The southern part of no. 399, which Kohl dates in this case 1602. He makes no comments on it.

401. A. D. 1602. Patagonia by Levinus Hulsius.

It gives an excessive breadth to the Patagonian region, as was usual in maps of this time. In the interior a Patagonian giant is represented running an arrow a yard and a half long down his throat to the bottom of his stomach.

402. A. D. 1615. Magellan's Straits by Spilbergen.

A map in De Bry, Part XI. (1619), purporting to show the explorations of George Spilbergen; but there is nothing in the accompanying text to explain its history.

403. A. D. 1619. Tierra del Fuego by Schouten.

Showing Magellan's straits; Tierra del Fuego, which is made a single large island, with a portion of its west coast unknown, and Lemaire's channel separating it from "State land," the western end of which is shown; as is also Schouten's track in rounding Cape Horn. It follows the engraved map in the *Diarium vel descriptio . . . itineris facti a Guilielmo Cornelio Schoutenio Hornano*. Amsterdami, 1619. The map is called, "Caerte van de nieuwe Passage . . . ontdeekt . . . in den jare 1616 door Willem Schouten van Hoorn." Schouten's own charts are lost, says Kohl; but as Willem Jansson wrote the preface to the book, he probably made this map from Schouten's drafts. Schouten sailed under the patronage of some Dutch merchants, chief among whom was Isaac Lemaire, with the purpose of discovering some other passage to the Pacific than Magellan's straits; and he was accompanied by Jacob, son of Isaac Lemaire, and after the latter they named the newly found passage between State land and the main coast.

Cf. the map on the title of the London edition of Schouten (1619), of which a facsimile is given in the *Nar. and Crit. Hist. America*, vol. viii. Kohl in his *Magellan's-Strasse* gives the map from the Amsterdam (1619) edition.

404. A. D. 1621. Patagonia by Nodal.

Follows an engraved map in Montenegro's *Relacion del Viaje de los Nodales*, Madrid, 1621.

405. A. D. 1621. The Same.

A less perfect copy. This map is reproduced in Kohl's *Magellan's-Strasse*.

406. A. D. 1624. Cape Horn by Walbeck.

An engraved map in the *Begin ende Voortgang van de Vereenigde Oost-Indische Compagnie*, 1646 (vol. ii.).

407. A. D. 1630. La Terra del Fuogo by Dudley.

One of the MS. maps of Robert Dudley, preserved at Munich, on which his *Arcano del Mare*, published at Florence in 1646, was based. Kohl assigns all of Dudley's maps to 1630. Tierra del Fuogo is made a completed island on the Schouten idea. "Staten land" is a peninsula of a great Antarctic continent.

— A. D. 1644.

The map in the Amsterdam ed. of Linschoten.

— A. D. 1646.

The map of Kaerius in Speed's *Prospect* (London, 1665).

— A. D. 1651.

Straits of Magellan in Jansson's *Atlas Minor*, ii. 427.

408. A. D. 1666. Magellanica by Jansson.

From Jansson's *Atlas*, 1666. For Magellan's straits, he followed mainly Nodal's reports. The general shape of Tierra del Fuogo is like Schouten's. "Staten Eylant" has the insular form for the first time, says Kohl, in a printed map.

409. A. D. 1670. Magellan's Straits by Narborough.

Sir John Narborough was sent out by Charles II. in 1669 to renew explorations, which had been neglected for many years. Narborough's map, three feet long, as drawn by himself on parchment, is in the British Museum. From this a reduction was engraved and published in London, and from this engraving—"A new map of Magellan's straits discovered [*sic*] by Capt. John Narborough, commander of H. M. Ship Sweepstakes made and sold by P. Thornton"—Kohl makes the present draft, which he thinks was largely based on early Dutch surveys.

410. A. D. 1670. Patagonia and Tierra del Fuogo by Narborough.

This map seems also mainly derived from Dutch sources, and appeared in *An Account of several late Voyages and Discoveries to the South and North by Sir John Narborough*, London, 1694.

411. A. D. 1700(?). Coast South of Buenos Ayres.

The date 1700 is given by Kohl in the title, but it seems to be an error, as in his notes he says the map, which is a MS. one preserved in the British Museum, grew out of the explorations of Juan de la Piedra and of Antonio and Francisco Viedma in 1778 and 1779, under instructions from Spain to form settlements on the east coast of Patagonia. The map also shows the inland explorations of Brazilio Villarino in 1782, who was sent out by Viedma. Routes of other explorers are also indicated.

412. A. D. 1714. Magellan's Straits and Tierra del Fuogo by Frezier.

This is one of the maps explained by Frezier to Louis XIV., when he returned, in 1714, from the voyage of exploration on which that monarch had sent him in 1712. Cape Horn is laid down in $55^{\circ} 45'$. The west coast of Tierra del Fuogo trends nearly east and west. The eastern parts of the Falkland

islands are shown, with tracks of vessels from St. Malo from 1700 to 1713, by whom they are said to have been discovered.

413. A. D. 1717. The Same.

This is an incomplete sketch dated differently, and has no annotations.

414. A. D. 1748. The Country South of the Rio Plata by Cardiel.

An oblong, incomplete sketch, without comment.

— A. D. 1766.

Bougainville's map of the straits, of which a facsimile is given in the *Nar. and Crit. Hist. America*, vol. viii.

415. A. D. 1775. Southern Part of South America.

From an English map, based on the *Atlas* of Juan de la Cruz Cano y Olmadilla, published at Madrid in 1769. The English map is called "improved from Byron, Wallis, Carteret and Bougainville, 1775."

416. A. D. 1782. Rio Negro.

This shows a section from ocean to ocean of northern Patagonia and Chili, and was based by Arrowsmith on data got from the explorations of Basilio Villarino in 1782, and was published in the *Journal of the Royal Geographical Society*, vol. vi. (1836).

417. A. D. 1783. East Coast of Patagonia by Viedma.

It follows a rough sketch preserved in the British Museum.

418. A. D. 1824. Cape Horn and Vicinity by Capt. Weddell.

A small sketch without notes.

419. A. D. 1830. Patagonia after Capt. King

A sketch without comment.

420. A. D. 1833. The Southern Pole.

A map showing the southern hemisphere between the pole and 30° S. lat., with tracks of recent explorers laid down, published in the *Journal of the Royal Geographical Society*, iii. (1833).

421. A. D. 1833. East Falkland Island.

From the *Journal of the Royal Geographical Society*, iii. (1833).

XV.

BRAZIL AND THE AMAZON.

*** Cf. sections ii., xii., and xiii.

422. A. D. 1500. Brazil by La Cosa.

A section of the La Cosa chart. See *ante*, no. 26. Kohl considers that La Cosa, in the water which he represents southwest of South America, anticipated the discovery of the South Sea or Pacific. He considers the "Costa plaida" to mark the island which

divides the Amazon proper from the Para river, and holds that the names along the coast are the results of the voyages of Pinzon and Lepe.

423. A. D. 1525. Brazil by Lorenz Friess.

From the *Carta Marina* (Atlas) of Lorenz Friess, published in 1530, but it represents rather the condition of knowledge of this part of the South American coast after the Portuguese explorations of 1501-3. The country is called, "Prisilia sive terra papagalli." Another (German) inscription reads, "In this country, men when they die, are cut up, smoked, roasted and eaten." Another says, "They have sailed all along this coast, but no one has penetrated into the country." It is sketched in the *Nar. and Crit. Hist. America*, vol. viii.

424. A. D. 1542. Coast of Brazil by Rotz.

A sketch without comment. It is from the *Idrography*. See *ante*, no. 55. Brazil is made an island.

425. A. D. 1546. Brazil by J. Freire.

It shows the coast from the mouth of the Amazon to La Plata. Copied from a MS. portolano then in the possession of Santarem. It gives latitude without longitude, and Kohl calls it the earliest good survey by astronomical helps. La Plata rises in a lake, which Kohl believes the same discovered by Cabeça de Vaca, and for the first time laid down in this map.

426. A. D. 1547. Brazil by Nic. Vallard.

From a MS. atlas. See *ante*, no. 154.

427. A. D. 1556. Brazil.

From Ramusio, *Viaggi*, vol. iii. (1556). The map appears to be of French origin. There is a facsimile in Paul Gaffarel's *Brésil Français*, p. 61.

428. A. D. 1558. Brazil by Diego Homem.

From the MS. atlas in the British Museum. See *ante*, no. 67. It covers the same extent as no. 425, but the coast is more minutely drawn, and besprinkled with names, quite unlike those of Freire. The degrees of latitude are marked, but not numbered.

429. A. D. 1558. The Amazon and the Northern Coast by Diego Homem.

From the same atlas as no. 428. That part of the ocean which receives the flow of the Amazon is called "Mare aque dulcis." The river itself is called "Rio de S. Juan de las Amazonas." The names given by Orellana are scattered along its course. The name "Omaga" (Omagua) is said by Kohl to be here seen for the first time on a map. There is a sketch of this map in the *Nar. and Crit. Hist. America*, viii.

430. A. D. 1558. The Same.

A less perfect sketch.

431. A. D. 1561. Brazil by Ruscelli.

Added by Ruscelli to the ed. of Ptolemy, published 1561, and thought to be made upon the draft published by Ramusio, 1556; but Ruscelli adds lines of longitude and latitude, which Ramusio did not give. Kohl thinks it the earliest map of Brazil on which longitudes are marked. They are nearly right—by a chance.

— A. D. 1578.

Brazil in the *Atlas* of Johannes Martines, in the British Museum. See *ante*, no. 75. A sketch of the map of Brazil is given in the *Nar. and Crit. Hist. America*, vol. viii.

432. A. D. 1599. South America by Levinus Hulsius.

An engraved map published at Nuremberg, and called, "Nova et exacta Delineatio Americæ partis Australis, que est Brasilia," etc. Kohl says that the Orinoco is for the first time drawn inland. It is represented as a broad stream, with a mouth filled with many islands. The usual "Parime Lacus" connects with the Atlantic by the Caiane and Waipago rivers. A large "lacus Eupuna" connects north with the Amazon, east with the ocean, and south (apparently) with the La Plata river. See facsimile in *Nar. and Crit. Hist. America*, vol. viii.

— A. D. 1651.

Brazil, in Jansson's *Atlas Minor*, ii. 417. It resembles Ramusio's, no. 427, *ante*.

433. A. D. 1656. The Amazon by Sanson.

A published map, "Le Peru et le Cours de la Rivière Amazon, Paris, 1656." It was made in large part after the reports of Father d'Acunha, who accompanied Pedro Texeira in 1638 on his trip up the Amazon, thence to Quito, and return. An account of the journey was published in Madrid in 1640, but without a map. This map, fashioned by Sanson, on that account continued to be the best, down to the map of Father Fritz in 1717.

434. A. D. 1695. Brazil by Coronelli.

A small sketch, without comment.

435. A. D. 1700. (?) The Amazon by Fritz.

After a MS. map in the Depot de la Marine at Paris, without date or author, called "Rio de Maranhon o de Amazonas." Kohl thinks it either a copy of Father Fritz's map, as he made it, or as it was engraved in Quito in 1707. The names agree with those in Fritz's report. It does not give the upper course of the Ucayale, which is given in no. 438 (*post*), but it gives details generally with greater fulness.

436. A. D. 1703. The Amazon by Delisle.

It is called, "Carte du Pays des Amazones, par De l'Isle, d'après Herrera, Laet, Acuña, Rodriguez, etc., 1703." It is incorrect in many important particulars.

437. A. D. 1703. Brazil by Delisle.

Called, "Carte du Brésil d'après Herrera, Laet, Acuña, Rodriguez et sur plusieurs relations, 1703." Kohl considers Sanson's map of 1656 far more accurate.

438. A. D. 1707. The Amazon by Fritz.

The German Jesuit missionary, Father Samuel Fritz, was familiar with the river after 1686, and during his journeys he used rude instruments to make observations of latitude, but he had none to determine longitude, though lines of longitude are given in his map. This map was engraved in Quito

in 1707, and is the earliest map based on any astronomical observations. A reduced copy of it was, in 1717, published in the *Lettres Édifiantes*, but was unaccompanied by Fritz's reports, which were never published. It remained the best map till that of Condomine (1744) was published. The present copy follows the reduction of the *Lettres Édifiantes* (vol. xii., p. 212).

439. A. D. 1744. The Amazon by Condomine.

Condomine was on the river in 1743 and 1744, and he was provided with better instruments than Fritz possessed, so that he placed points on the river astronomically with more accuracy. Kohl by a dotted line plots in on the same drafts, for comparison, the survey by Fritz.

440. A. D. 1749. The River Madeira from Southey's Papers.

From a MS. map in the British Museum, which had belonged to Robert Southey, when he was writing his *Hist. of Brazil*. It is a Portuguese map, and seems to have been made by a trader from Para.

441. A. D. 1751. The Amazon.

A corrected sketch without comment.

442. A. D. 1769. The Amazon by Father Amich.

After a Spanish MS. map by Fr. José Amich, preserved in the British Museum. Kohl thinks that Amich's advances in the cartography of this region were not well known for some time after 1769.

443. A. D. 1790. The Huallaga and Ucayali Rivers by Sobreviela.

This is a map made by Father Francisco Mannel Sobreviela in 1790, as corrected by Amadeo Chaulmelle in 1830, and published that year at Lima.

444. A. D. 1814. The Rivers Ucayale and Huallaga by Father Carballo.

Father Paule Monso Carballo belonged to the Franciscan convent of Ocopa in Peru. He used the MS. maps in the archives of his convent which had been deposited from time to time by the missionaries whom it had sent out.

445. A. D. 1825. The Amazon.

A MS. *Carta geographica das Provincias do Grão Para e Rio Negro*, Para, 1825.

446. A. D. 1852. The Negro and Naupes by A. R. Wallace.

This map, made by Wallace from observations on the river in 1850-52, was published in the *Royal Geographical Society's Journal*, xxiii.

XVI.

LA PLATA.

** Cf. sections xii. and xiv.

— A. D. 1515.

Wieser thinks that the map in Kunstmann (pl. iv.) is a Portuguese copy of a map made by Solis of this date.

447. A. D. 1547. La Plata by Nic. Vallard.

It extends south to Magellan's straits. From the well-known atlas in the Sir Thomas Phillipps Collection, marked, "Dicu pour espoir. Nicolas Vallard de Dieppe, 1547." It has been questioned if this was not the name of the owner, rather than of the maker of the atlas, but Kohl says the writing is the same as the inscriptions contained on the maps. The tropic of Capricorn is marked, but the degrees of latitude, though traced, are not numbered. The names are mostly Portuguese, but with an occasional French turn. The bay of Rio de Janeiro is drawn but not named.

448. A. D. 1547. The Same.

An imperfect sketch, without annotation.

449. A. D. 1597. La Plata by Wytfliet.

A corrected sketch, without annotation.

450. A. D. 1598. Mouth of the La Plata.

A Dutch map, which accompanied an account of a voyage made from Holland in 1598 by the Dutch admiral, Lauren Bicker.

451. A. D. 1600. La Plata.

A Spanish map published by Jodocus Hondius in his *Atlas* in 1607.

452. A. D. 1630-35. Parana and Uruguay Rivers.

The earliest map constructed by the Jesuit missionaries, and published by Blaeu in his *Atlas*. It shows the stations which were destroyed and those which were spared in the raids of the slave hunters of St. Paulo, 1630-35.

— A. D. 1651.

La Plata in Jansson's *Minor Atlas*, ii. 421.

453. A. D. 1733. La Plata by D'Anville.

It shows both coasts of South America between 18° and 37° S. lat., and represents the continent as much narrower than on earlier maps.

454. A. D. 1733. The Same.

Without annotation.

455. A. D. 1826. Rio Vermejo by Soria.

A branch of the La Plata. This map was made from memory after Francia, the dictator of Paraguay, had seized the papers of Dr. Pablo Soria, who had conducted the exploration for a company in Buenos Ayres. The present copy follows a draft made for the Geographical Society of Paris. Cf. Sir Woodbine Parish's *Buenos Ayres*, London, 1839.

XVII.

PERU AND CHILI.

** Cf. sections ii., xii., and xiii.

456. A. D. 1532(?). Peru.

It extends 10° north and south of the equator. It is French in language, but Kohl conjectures that it follows early Spanish maps sent home by Pizarro.

It was in Jomard's possession when Kohl made his copy. The battle of Caxamalca is sketched in the southern part of the map, and Kohl believes the original draft of the map may have been sent to Spain shortly after that event.

457. A. D. 1532(?). The Same.

An imperfect sketch, without annotation.

458. A. D. 1597. Peru by Wytfliet.

An imperfect sketch, without annotation.

459. A. D. 1601. Peru by Herrera.

Follows an engraved map in Herrera's *Descripcion de las Indias*, Madrid, 1601.

460. A. D. 1630. Chili, Patagonia, and Magellan's Straits.

After a map in the Dépôt de la Marine in Paris, made by the Father Procurator of the Jesuits in Chili, who acknowledges his indebtedness to De Laet, Herrera, and De Bry. Kohl engraves it in his *Magellan's-Strasse*.

461. A. D. 1631. Peru by Jansson.

This map is a published one, drawn probably eclectically from Herrera and other serviceable sources, and also possibly from Dutch reports. The latitudes are fairly accurate, but longitudes are not attempted.

462. A. D. 1646. Chili by Ovalle.

It includes Patagonia and the straits of Magellan; and follows Sanson's reproduction (1656) of the map of the Jesuit Ovalle, engraved in Rome in 1646. It resembles no. 460, but is richer in names, and is otherwise an advance upon that draft.

— A. D. 1651.

Peru in Jansson's *Atlas Minor*, ii. 411.

463. A. D. 1700(?). New Spain and Peru.

From a *Cruising Voyage round the World by Capt. Woodes Rogers*, London, 1712, where it was engraved by J. Senex. The book gives no hint of the origin of the map, other than that this and the following no. 464 were captured by Capt. Rogers in the South Seas.

464. A. D. 1700(?). Chili.

From the same work as no. 463, but it is not so accurate a map for the time.

465. A. D. 1703. Chili by Delisle.

Not a very accurate representation of the best knowledge of its time, — as Kohl thinks.

466. A. D. 1712. Peru.

This map is from the same sources as nos. 463 and 464, and comes between them, in making a continuous coast line. Kohl gives it the date of Rogers' book, 1712, while he dates the others about 1700.

467. A. D. 1713. Los Moxos.

A Jesuit map of the province showing mission stations. A reduction of it is given in the *Lettres Édifiantes*, vol. viii. (1781) p. 337.

468. A. D. 1713. The Same.

Without annotations.

469. A. D. 1767(?). The River Marmore.

An undated MS. map of the Bishopric of Sierra Cruz de la Sierra in Peru, preserved in the British Museum. It resembles no. 467.

470. A. D. 1781. The Moxos Country.

A small sketch of the mission-sites in Moxos.

471. A. D. 1783. The Missions of Ocopa.

One of the earliest maps made by the missionaries of Ocopa. It is preserved in the British Museum.

472. A. D. 1796. Peru by A. Baleato.

A MS. map attached to an official report (preserved in the British Museum) rendered on a change of Viceroys in Peru in 1796.

473. A. D. 1835. Excursions about Cusco.

Maps of journeys made by General Miller, engraved in the *Royal Geographical Society's Journal*, vol. vi. (1836).

474. A. D. 1836. The Same.

Cancelled.

FINAL NOTE (Aug. 11, 1886). In adding titles of maps to the enumeration of Dr. Kohl, no attempt has been made to give all maps, not mentioned by Kohl.

During the progress of this "Contribution," there has appeared in the *Report of the Superintendent of the U. S. Coast Survey, ending June, 1884* (Washington, 1885), as Appendix no. 19 (pp. 495-617), a *History of Discovery and Exploration on the Coasts of the United States*, by J. G. Kohl, with this prefatory note: "The historical accounts here given of discovery and exploration on the coasts of the United States were prepared at the instance of Professor A. D. Bache, the superintendent of the coast survey at the time (1854) of Dr. Kohl's visit to this country. But a few years had then elapsed since the beginning of the survey on the Pacific coast, and the want of an authoritative and connected account of early exploration upon that coast was greatly felt. Trustworthy data were needed to establish the origin of geographical names, to decide disputed points of orthography, to identify localities named by early explorers, and to show the condition of discovery and fix the limit of geographical knowledge at various periods. The work undertaken by Dr.

Kohl included, in addition to the historical account, a general map illustrating it, a collection of maps showing the range and limits appertaining to each discoverer and explorer, a list of names of bays, capes, harbors, etc., with critical remarks and a catalogue of books, maps, manuscripts, etc., relative to discoveries.

"In so satisfactory a manner was this work performed for the Pacific coast, that Dr. Kohl was asked to undertake a similar work for the coast of the Atlantic and the Gulf of Mexico. Upon its completion, the entire work was deposited for reference in the archives of the survey. Means for its publication as a whole not having been available, it has now been deemed advisable to publish the historical portion. To each memoir is appended a list of the collection of maps. Some of these maps are copied from originals, others from old manuscripts or rare prints, and those of more modern origin are of interest as links in the chain of historical connection." The paper of Kohl which follows is divided into three parts: I., the Atlantic coast; II., the Gulf of Mexico; III., the Pacific coast.

If these "historical accounts" had been published at the time, thirty years ago, they would have shown the best results in this line of research then produced. At the present date Kohl's views are in large part antiquated, and his knowledge is in important particulars insufficient or erroneous. The publication of the papers uncorrected and unexplained is, accordingly, an injury to his memory, and of little use to the student, except as indicating the condition of knowledge at that time. Kohl, before he died, and in the light of his increasing knowledge, spoke disparagingly of the work he did at that time.





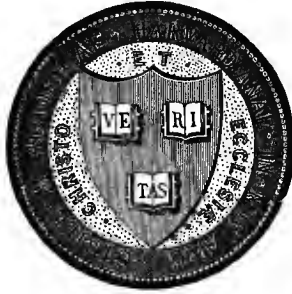
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EDITED BY JUSTIN WINSOR,
LIBRARIAN.

No. 20.



INDEX TO RECENT REFERENCE LISTS, 1884-1885.

By WILLIAM COOLIDGE LANE.

REPUBLISHED FROM THE BULLETIN OF HARVARD UNIVERSITY.

CAMBRIDGE, MASS.:

Issued by the Library of Harvard University.

1885.

Already issued or in preparation :

A Star prefixed indicates they are not yet ready.

1. EDWARD S. HOLDEN. Index-Catalogue of Books and Memoirs on the Transits of Mercury.
2. JUSTIN WINSOR. Shakespeare's Poems: a Bibliography of the Earlier Editions.
3. CHARLES ELIOT NORTON. Principal books relating to the Life and Works of Michelangelo, with Notes.
4. JUSTIN WINSOR. Pietas et Gratulatio. An Inquiry into the authorship of the several pieces.
5. LIST OF APPARATUS in different Laboratories of the United States, available for Scientific Researches involving Accurate Measurements.
6. THE COLLECTION OF BOOKS AND AUTOGRAPHS, bequeathed to Harvard College Library, by the Honorable Charles Sumner.
- *7. WILLIAM C. LANE. The Dante Collections in the Harvard College and Boston Public Libraries.
8. CALENDAR of the Arthur Lee Manuscripts in Harvard College Library.
9. GEORGE LINCOLN GOODALE. The Floras of different countries.
10. JUSTIN WINSOR. Halliwelliana: a Bibliography of the Publications of James Orchard Halliwell-Phillipps.
11. SAMUEL H. SCUDDER. The Entomological Libraries of the United States.
12. A LIST OF THE PUBLICATIONS of Harvard University and its Officers, 1870-1880.
13. SAMUEL H. SCUDDER. A Bibliography of Fossil Insects.
14. WILLIAM H. TILLINGHAST. Notes on the Historical Hydrography of the Handkerchief Shoal in the Bahamas.
15. J. D. WHITNEY. List of American Authors in Geology and Palæontology.
16. RICHARD BLISS. Classified Index to the Maps in Petermann's Geographische Mittheilungen. 1855-1881.
- *17. RICHARD BLISS. Classified Index to the Maps in the Royal Geographical Society's Publications. 1830-1883.
18. JUSTIN WINSOR. The Bibliography of Ptolemy's Geography.
- *19. JUSTIN WINSOR. The Kohl Collection of Early Maps.
20. WILLIAM C. LANE. Index to Recent Reference Lists, 1884-1885.

INDEX

OF

REFERENCE LISTS AND SPECIAL BIBLIOGRAPHIES

INCLUDED IN

PERIODICAL AND OTHER PUBLICATIONS OF RECENT DATE.

Two lists somewhat similar to the following were published two years ago:—one, by H. J. Carr in the *Library Journal* of February, 1883, the other, by the Boston public library in its *Bulletin* for September, 1883. The first indexed only the reference lists which had appeared in the bulletins of several libraries, and in a few English and American literary and bibliographical journals. The second covered the same ground and included in addition references to the valuable notes on many subjects found in the printed catalogues of the Boston public library and of some other libraries.

The present list is in part a continuation of the latter, as it indexes the same serial publications from the point where that left off, but it covers a wider range, is not limited to publications in English, and includes such bibliographies, lists of authorities, "quellenverzeichnisse" etc. contained in larger works as have been noted in a tolerably careful examination of all the volumes received in the library since January, 1884. Such lists of authorities are becoming more and more common in books which have involved careful investigation, and are of great use to students working in the same direction. The following index will furnish a ready key to many lists which have appeared recently. But few references are given to publications earlier than 1884, and none to works not in this library.

Acalephs. Bibliography of works on the development of. By J. W. Fewkes. (*Bull. mus. comp. zool.* 1884, xi. 209-238.)

Acrostics. Materials for a history of anagrams and acrostics. By W. C. Hazlitt. (*Bibliographer*, 1884, v. 174-175.)

Adam de la Hale's dramen. Von Leopold Bahlsen. Marburg. 1885. 8°. (*Ausg. u. abhandl. veröffent.* v. E. Stengel, 27.)

Bibliographie, pp. 1-8, 211-227.

Adams, J. Q. Administration. (Providence ref. lists, Nov. 1883, iii. 11.)

Aesthetics. Bibliography of beauty theories. [Chronologically, without notes. About 140 authors cited.] (*Notes and queries*, 1883, viii. 183, 243, 302, 382.)

Afghanistan, and Anglo-Russian dispute. By T. F. Rodenbough. N. Y. 1885. 8°.

List of authorities, pp. 131-133.

Africa. Publications relatives à l'Afrique. Par J. Poinsot. [Notices the serial publications devoted to African antiquities.] (*Polybiblion*, pt. litt., 1884, xi. 456-461.)

Africa, South, Notes on books relating to. By G. M. Theal. (*Cape quart. rev.* Apr.-Oct. 1882, i. 403, 621; ii. 39.)

African languages. Bibliographical table of languages, dialects, localities, and authorities. (Cust, R. N. *Sketch of the modern languages of Africa*, 1883, ii. 467-521.)

Almanacs. Some New England almanacs, with special mention of the almanacs of Rhode Island. By Amos Perry. (*Narragansett hist. reg.*, July, 1885, iv. 27-39.)

— A catalogue of English almanacs of the sixteenth century, with bibliographical notes. By H. R. Plomer. (*Notes and queries*, 1885, xi. 221, 262, 301, 382.)

— *French.* Les almanachs de la révolution. Par H. Welschinger. P. 1884. 16°.

Bibliographie, pp. 219-238.

Alsace. Verzeichniss der in den Jahren 1870-82 erschienenen litteratur über das Elsass. Von E. Martin und W. Wiegand. (*Strassburger studien*, 1884, ii. 385-473.)

America. Early English explorations. (*Prov. ref. lists*, Aug. 1884, iv. 8.)

. Extensive bibliographical notes and abundant references to authorities are given in H. H. Bancroft's *History of the Pacific states of North America*.

• **American anti-slavery society.** Authorship of its series of tracts, [given on the authority of S. J. May]. (Cornell library, Jan. 1884, i. 231-232.)

• **American local history.** See **United States.**

• **American revolution.** See **United States.**

• **Amusements.** Summer sports and amusements. (Lit. news, June, 1885, vi. 178-179.)

• **Anagrams.** Materials for a history of anagrams and acrostics. By W. C. Hazlitt. (Bibliographer, 1884, v. 174-175.)

• **Angling.** The first English book on angling [Berners' Treatise on fishing with an angle]. By W. E. A. Axon. (Libr. chron., 1884, i. 121, 143.)

• **Anthropology.** Bibliography of. By O. T. Mason. (Annual rep. of the Smithsonian inst. for 1880, pp. 403-439.)

Continued annually in succeeding reports.

• **Antinoos.** eine kunstarthologische untersuchung. Christiania. 1884. 8°

Antinoische litteratur [references and extracts from classical or ancient writers], pp. 333-346.

• **Anti-slavery periodicals in the May collection of the Cornell library.** (Cornell library, Jan. 1884, i. 229-231.)

• **Anti-slavery society.** See **American anti-slavery society.**

• **Arabs.** La civilisation des Arabes. Par Gust. Le Bon. P. 1884. 4°

Bibliographie méthodique [incl. history, religion, ethnology, literature and philosophy, science, geography, archaeology, and fine arts], pp. 679-686.

• **Arctic exploration.** (Prov. ref. lists, May, 1884, iv. 5.)

• **Arnold, Matthew.** His writings (with references to reviews).—Works edited or prefaced by him.—General reviews and notices of him. (Bull. Boston publ. libr., 1884, vi. 84.)

• **Art.** Books on art and archaeology, industrial and decorative art, &c. published in U. S. from Oct. 1882 to Dec. 31, 1883 (Koehler's U. S. art directory. Second year, 1884, pp. 40-47.)

Similar list in previous year.

— Real-lexikon der kunstgewerbe. Von B. Bucher. Wien. 1884. 8°

Literaturmachweise [including Kunstlehre, vorbildersammlungen, ornamentik, costime, heraldik, gemmogenyptik, ceroplastik, schrift u. buchdruck, bibliographie, buchbindung, wanddecorationen, textile kunst, keramik, holzarbeit, glas, glasmalerei, email, metallarbeit, etc., etc.]

— See also **Fine Arts.**

• **Asia,** European interests in. (Prov. ref. lists, Sept. 1884, iv. 9.)

• **Astronomical bibliography,** 1882, 1883. By E. S. Holden. (Annual rep. of the Smithsonian inst. for 1882, pp. 319-321; for 1883, pp. 432-441.)

• **Austria.** Grundriss der oesterreichischen geschichte. Von Fr. Krones. Wien. 1882. 8°

With very extensive references for each period and event to sources and literature.

• **Baird, S. F.,** his published writings, 1843-1882. By G. B. Goode. (Bull. U. S. nat. mus., 1883, no. 20.)

• **Balzac, Honoré de.** Étude bibliographique de ses éditions originales et de ses ouvrages les plus recherchées. Par Ant. Laporte. (Bibliographie contemporaine, 1884, i. 113-123.)

Reprinted separately, 15 pp.

• **Batrachians.** Review of the progress of North American batrachology in the years 1880-83. By W. N. Lockington. (Amer. nat., 1884, xviii. 149-154.)

• **Bayly, Lewis, Bishop.** Bayly's Practice of piety. Bibliogr. list of editions. By W. Cooke (Bibliographer, Dec. 1883, v. 5-8.)

Addition in v. 55.

• **Beaumarchais.** [Additions to Cordier's Bibliographie des œuvres de B. By É. Picot.] (Revue critique, Déc. 3, 1883, xvi. 448-457.)

• **Berners, Juliana.** The first English book on angling. By W. E. A. Axon. (Library chronicle, 1884, i. 121, 143.)

• **Bewick bibliography.** [Very brief.] (Notes and queries, 1884, x. 305.)

• **Bible.** Some notes on the Geneva Bible. By N. Pocock. (Bibliographer, 1882-84, ii. 40, 97, 160; iii. 28, 103; iv. 34; v. 76; vi. 105.)

• — "The great Bible," A.D. 1539. By Nicholas Pocock. (Book-lore, June, 1885, ii. 1-5.)

• — Cranmer's Bible, A.D. 1540. By Nicholas Pocock. (Book-lore, July, 1885, ii. 25-29.)

• — Notes on the last edition of the Bishops' New Testament. By J. Read Dore. (Book-lore, March, 1885, i. 113-118.)

• **Biblical criticism.** History of the Sacred Scriptures of the New Testament. By Ed. Reuss. 2 vol. B. 1884. 8°

With abundant bibliographical references at the end of almost every paragraph.

• **Biblical exegesis.**

*** Bibliogr. lists chiefly of learned works are given in Meyer's Critical and exegetical hand-books (to the books of the New Test.). A general list is in the volume on Matthew, and special lists in the others.

• **Biblical study.** Catalogue of books of reference. (Briggs, C. A. Biblical study, 1883, 12°, pp. 429-488.)

• **Bibliography in Belgium since 1880.** (Trübner's lit. record, 1884, v. 13.)

• — Index to the notes about books and reading and to the special book lists found in the catalogues of the Boston public library and other libraries, and also in periodicals. (Hand-book for readers in the Boston public library. New ed. 1883, pp. 31-53.)

Also in the Bulletin of the library, 1883, v. 444-450.

• — An index to some recent reference lists. By H. J. Carr. [Bulletins of the Boston Public, Cornell Univ., Harvard Univ., Philadelphia Mercantile, and St. Louis Public School Libraries and of the Hartford Library Assoc., the Library Journal and the Providence Public Library Monthly Reference lists, Literary World, Literary News, Publisher's Weekly, &c. (Library journ., Feb. 1883, viii. 27-32.)

• — Report on aids and guides to readers by W. E. Foster. [Gives list of bibliographical guides in various publications.] (Library journ., 1883, viii. 233-235.)

• **Bimetalism.** Brief bibliography of. (Mill, J. S. Principles of political economy. [Ed.] by J. L. Laughlin, 1885, pp. 633-635.)

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• **Bitumen.** See **Petroleum.**

• **Bookplates,** Bibliog. of. By W. Hamilton. [References to a number of articles in periodicals up to May, 1883.] (Antiq. mag. & bibliog., 1884, v. 78-80.)

• **Bossuet.** Bibliogr. des oraisons funèbres de Bossuet. Par A. Gasté. (Bossuet. Oraisons funèbres, 1883, 12°, pp. xxiii.-xxvii.)

- **Bray**, Mrs. Anna Eliza, and her writings. By G. C. Boase. [With a bibliography.] (Libr. chron., 1884, i. 126-129.)
Correction on p. 160.
- **Brown**, Sir Thomas. *Religio medici*. L. 1883. sm. 8°.
Bibliography, pp. xxix.-xxxi.
- **Browning**, Mrs. E. B. Note on the first collected edition of her poems, published in N. Y. in 1845. (Critic & good lit., Feb. 23, 1884, i. 90.)
- **Buchanan's** administration. (Prov. ref. lists, Nov. 1884, iv. 11.)
- **Buddha**. Ouvrages à consulter pour la vie du Bouddha Çākya-Mouni. (Le Lalita-vistara traduit par Éd. Foucaux, 1884, 4°, pp. xxi.-xxiii.)
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- **Bury**, Richard de, and his editors. By E. C. Thomas. [Discusses the value of the various editions of his *Philobiblon*.] (Libr. chron., 1884, i. 148-153.)
- **Canada**. Early settlement.—The contest of France and England in Canada.—Canada since 1763. (Prov. ref. lists, June, 1884, iv. 6.)
- **Catacombs**, Reading notes on. (Bull. of the merc. libr. of Phila. 1884, i. 113-114.)
- **Catherinot**, Bibliogr. raisonnée des écrits de. Par J. Flach. (Catherinot. Les axiomes du droit français, 1883, pp. 37-62.)
- **Central America**. See **Yucatan**.
- **Chambord**, Comte de. [Bibliog. of books and pamphlets regarding him from his birth to 1883.] (Polybiblion, nov. 1883, xxxviii. 455-457.)
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- **Chaucer**, Bibliography of. By J. Maskell. [Confessedly imperfect and tentative, but quite extensive.] (Notes and queries, 1884, ix. 141, 361, 422, 462; x. 3, 64, 422.)
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— reactions, Speed of. By R. B. Warder. (Proc. Amer. assoc. adv. science, 1883 meeting, xxxii. 155-158.)
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Bibliography, pp. 551-558.
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- **Clough**, Arthur Hugh, Collections toward a bibliography of. (Literary world, June 28, 1884, xv. p. 213.)
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- **Collins**, Mortimer. List of his works. By W. H. K. Wright. (Notes and queries, 1885, xi. 238-239.)
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Bibliographie, pp. 321-332.
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